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AUGUST 2, 1947

Vol. 133 — No. 5

TELEPHONY

THE JOURNAL OF THE TELEPHONE INDUSTRY

Published every week on Saturday by TELEPHONY PUBLISHING CORPORATION, 608 So. Dearborn St., Chicago 5, Ill. Subscription $3.00 per year. Entered as second class matter at the Post Office at Chicago, Ill. under the act of March 3, 1879.

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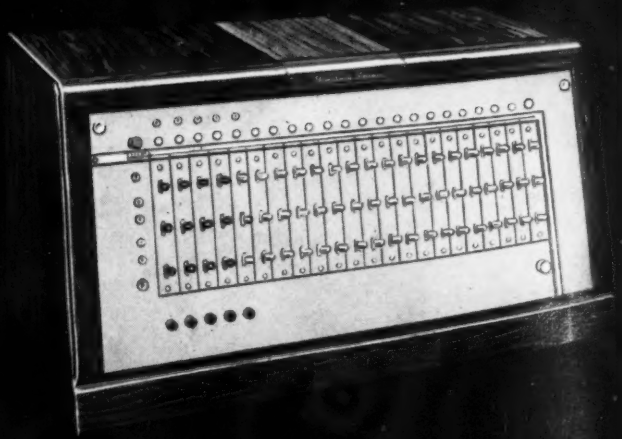

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TELEPHONES, SWITCHBOARDS AND INTERCOMMUNICATION SYSTEMS • SOUND EQUIPMENT

TELEPHONY
The Journal of the Telephone Industry

August 2, 1947

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Published by
TELEPHONY PUBLISHING CORP.

Vol. 133, No. 5. Published every week on Saturday by TELEPHONY PUBLISHING CORPORATION, 608 South Dearborn St., Chicago (5), Ill. 15 cents per copy (except special issues). Subscription $3.00 per year U. S. and Countries in U. S. Spanish Postal Zone; $4 Canada; $5 Other Countries. Entered as second class matter September 4, 1908, at the Post Office at Chicago, Ill.

Telephone Wabash 2435
608 S. Dearborn St., CHICAGO (5), Ill.
U. S. A.

FLASHES AND PLUGS

PLAY BALL! How would you like to schedule the baseball games for your favorite league? FRANCIS L. MIKSA, Telephony's insatiable puzzle man, spent two months working one out and says he knows that telephone men, who have second-guessed the nation's favorite pastime from sandlot to big league, can do the same.

Since his "Dyad" puzzle, recently published in this column, seemed so much Greek to even the highly trained technicians who read TELEPHONY, we questioned the wisdom of presenting Mr. Miksa's "Goofy Baseball" game.

However, if our readers have nothing to do between now and World Series time, we offer a sure cure for their old headaches and an excellent recipe for some new ones. For additional information, write Francis L. Miksa, 613 Spring St., Aurora, Ill.

Goofy Baseball Game

Seven towns are symmetrically located at points on a circular railroad, one mile apart from each other. A friendly rivalry exists among the towns and one day it is decided to form a baseball league in which each town will be represented by a team.

The season is short and so the schedule of games is reduced to a minimum. It is decided that each team will play each other once and once only. This brings up the difficulty of arranging home games, so it is finally decided *to have no home games*—that is, each game is played in a town other than those represented by the contending teams. Here are the rules:

(1) No team can play in any town more than once, and no team plays more than one game in a day.
(2) There can be no more than one game in any town a day.
(3) Three games are held each day for a week.
(4) There cannot be games in any town on two or more successive days.
(5) All travelling is done at night. At night each team travels to the scene of the next day's game, by the shortest route along the circular railroad. (Trains run in both directions.)
(6) Should a team be idle on any day, it returns (or remains) home the preceding night (to witness the game in its own home town).
(7) When a team has completed its schedule it returns home that night.
(8) The first games are played on Sunday, July 2nd. So on the night of Saturday July 1st the travelling starts, and is completed on the night of Saturday of July 8th.
(9) The towns are 1 2 3 4 5 6 7 though they are not necessarily in that order.
(10) Teams 3, 5 and 6 never travel more than two miles any night.
(11) Teams 3, 4 and 7 travel the same total number of miles during the schedule.
(12) Teams 4 and 6 played at town 5 on Friday.
(13) There was a game at town 1 on Friday.

FROM THE ABOVE RULES, FIND THE ORDER OF TOWNS ALONG THE RAILROAD, AND DRAW UP THE SCHEDULE OF GAMES.

• • •

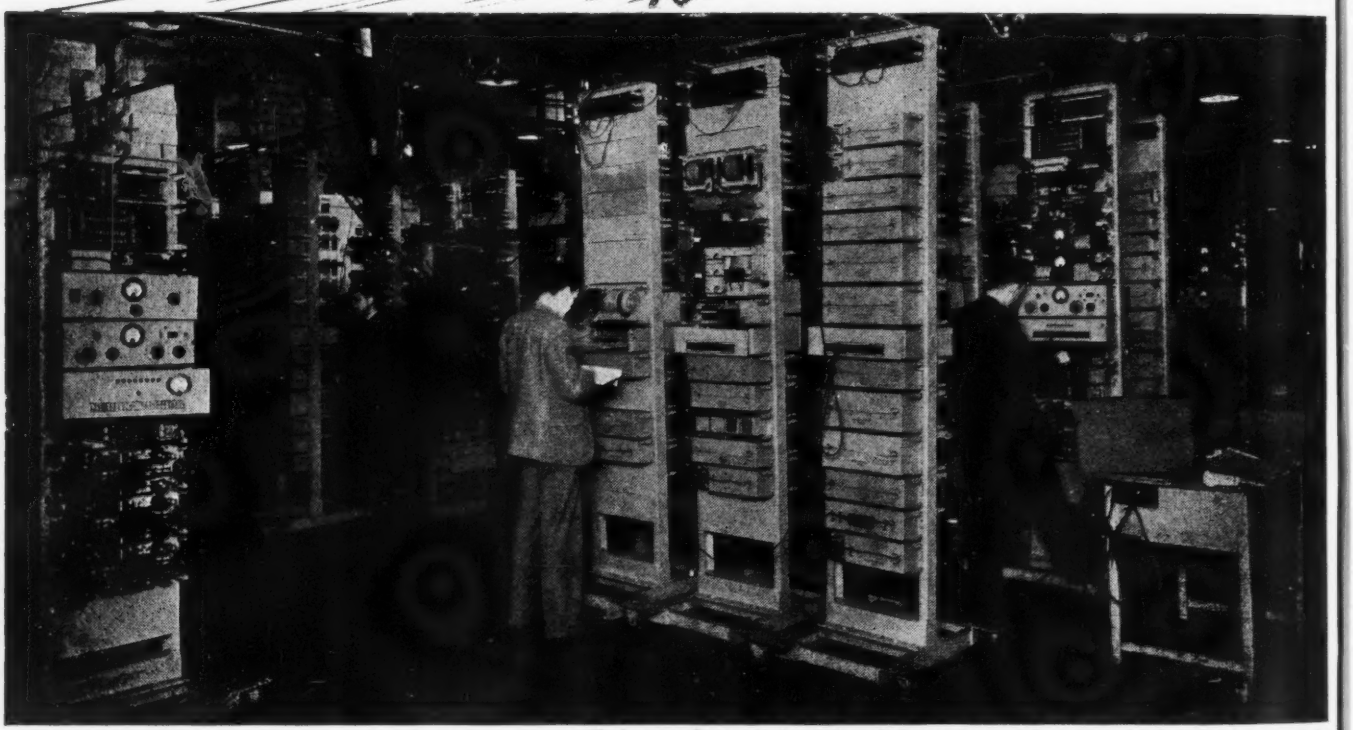
CASH AND CARRY. Thieves must have looked in the telephone directory before they entered the following residence in Portland, Ore., police reported. The house which was rifled belonged to Harry L. Cash.

• • •

WHAT NEXT! Plastic telephones for communication between rooms in the home work on a flashlight battery, our spies report. The complete set consists of two telephones, a battery and 50 feet of wire. The dial of one telephone rings the other.

TRANSMISSION PROBLEMS ECONOMICALLY SOLVED—

along these lines



All the several transmission Units which together complete the multi-channel line transmission equipment, are being subjected to exhaustive tests in the factory before being released for installation.

Scientific research and development in the field of telecommunications undertaken conjointly by Automatic Telephone & Electric Co. Ltd. and Telephone Manufacturing Co. Ltd. has resulted in using the inherent capacity of an open-wire line or cable pair to provide a number of independent transmission channels in addition to the normal physical telephone or signalling circuit.

This multi-channel system of line transmission solves the problem of economically extending an existing line network to meet the increasing demands for telecommunication service.

ATE/TMC equipment employed to convert an existing line from single to multi-channel working is of the latest improved design and is a precision product of proved efficiency and reliability.

The system is particularly economical on long lines, and includes facilities for intermediate way-stations and repeater stations, according to particular requirements. Adequate provision is also made at both the terminal and intermediate stations for the routine testing of the line and equipment to ensure that the high standard of transmission, which is generally superior to normal, is maintained.

The solution to line transmission problems is:-

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AND ST. MARY CRAY, KENT, ENGLAND

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ABC of the Telephone

By FRANK E. LEE

PART XXVIII. Subscriber Station Installation. The preceding installment of this series was published in the July 12 issue, p. 12.

THE key to good station installations lies in interpreting specifications to meet conditions that are found on each particular job. This approach on the subject is more desirable than the reverse which tends to make the job conform with specifications. Practically any experienced workman will agree that no two jobs are exactly alike. However, this actual fact does not alter the thought that the use of good common sense, plus a reasonable viewpoint in interpreting the meaning of specifications, will work on one job as well as on another.

Generally, a number of practical ideas that actually cannot be classed as specifications apply to every station installation job. Foremost in this group of ideas is the public relations angle. As a matter of fact, whether a person cares to admit it or not, from the standpoint of the telephone company and of the workman, the ability to perform the work in a manner that will maintain and improve good public relations is as important as is the mechanical ability required.

Considerable material has been prepared on the subject of public relations with regards to the importance of courtesy, attractive motor vehicles, good driving habits, conduct of the workman, approach to customers, and the desire of all concerned to give the customer the best kind of telephone service. All of the above mentioned ideas are important and they should be reviewed and discussed at regular intervals. For the purpose at hand, this short discussion on public relations will deal only with those aspects that can be associated directly with the performance of the work.

Location of Telephone

The subscriber buys telephone service for the convenience that it will give him. The more convenient the telephone is to use, the better the service. The better the service, the more pleased will be the customer. The result—improved public relations.

The station installer should ask the subscriber where he wants the telephone to be placed. If the subscriber asks for suggestions on possible locations for the telephone (and this does occur regularly) suggestions generally should be based on these considerations:

(1) *Convenience.* The telephone should be convenient to all parts of the home, office, or store, or to that part of the building where someone most likely will be when the telephone must be answered or used. In a small home, a central location may be satisfactory. In larger homes the suggestion of one or more extensions may be the best solution.

(2) *Audibility.* Under this heading is the thought of placing the telephone where the incoming ring can be heard clearly. Oddly enough, the most service complaints on new installations are associated with the way the bell does or does not ring.

"Bell rings too loud," "Bell doesn't ring loud enough," or "Don't like the tone of the bell" are common complaints.

Practically all telephone ringers can be adjusted for reduced loudness from a standard ring. This can be accomplished by reducing the armature air-gap or travel, through the use of gong attachments to deaden the sound of the ring, or through the use of gongs with different pitch or frequency than the regular standard.

If a louder ring is desired the problem can be solved in any one of a number of ways. Perhaps a resonator attachment is available for the particular gong being used. In other instances a strategically located extension telephone or extension ringer may be required. When the ring must be heard over large outdoor or factory areas, loud ringing bells should be suggested. These bells may operate directly from the regular ringing supply current or may, through a relay arrangement, operate on standard power voltages.

When the pitch of a gong or ringer blends in with the regular factory or room noises to an extent that the telephone bell is indistinct and may not be heard, try a device with an altogether different tone. Here, a horn type signal, siren, chime, xylophone bar or similar signal may be the answer.

Also, while on the subject of audibility, visual signals are desirable on many installations. Usually visual signals are used in conjunction with audible signals, however, where there is constant attendance at a desk or order turret, visual signals can be used alone. Generally, a red signal is used for this purpose and can be placed where it will not interfere with the working surface of a desk.

Naturally, to identify individual lines on multiple installations signals in different colors can be used. A number of manufacturers make visual signals with neon elements that will operate directly from the standard ringing voltages. Thus, visual signals can be installed where required without using auxiliary power unless a continuous signal is desired.

Finally, there is the problem of the person that is hard of hearing. Be

tactful in determining whether a hearing impairment is the cause of the bell not being heard. Solution to the problem may require unusual initiative on the part of the installer. As a general suggestion, attempt to locate the ringer at ear level, five or six feet above the floor. Many chronic cases of this sort have been solved by placing the bell box or extension ringer over a door way. Another alternative is to select a lower frequency gong. The old "cow bell" shaped gong still is used widely for this purpose. The tone or pitch of the ringer equipped with low frequency gongs, in many instances, can be heard distinctly by a person who is hard of hearing. The same ringer, to one with normal hearing, may not appear to be as loud as the standard ringer with higher frequency gongs.

(3) *Safety.* When considering the location of the telephone, thought should be given to the safety of the people who use the telephone, to the safety of the telephone itself, and to the safety of the installer or repairman who may have occasion to work on the instrument.

Another item in the public relations part of the installation job is to advise the subscriber of the general route to be used in placing the wires. In this connection, ask the customer if facilities have been provided for the telephone wiring. Many new or remodeled buildings have incorporated these provisions. If conduits, ducts, or raceways have not been provided the few minutes required to tell the customer of the route of the proposed wire run will serve to explain the workman's movements around the premises. Mention of the fact that certain rooms or closets will have to be entered may save embarrassment later when the actual work is in progress. Also, if the subscriber has any objections to the wire route, this, logically, will be the time for the objections to be raised.

Where should the installation job be started?

Some jobs can be started from the station protector or terminal as well as from the instrument location. Maybe the job will have to be started at some midpoint and the wire worked first to one end of the route and then to the other. A few suggestions on this particular question are:

(1) *Drilling Holes and Making Fishes.* How to fish station wire has been covered in a previous installment. In addition, to save time and effort all necessary holes through floors or partitions can be made before the wire is broken out of the coil.

(2) *Fastening Wire with Inside Wiring Nails or Staples.* If a considerable portion of the wire must be fastened with wiring nails or staples this fact may determine from which end the job will be started. The right-handed workman usually will find "tacking" from right to left along a wall or baseboard most convenient. The left-handed workman will favor from left to right. The controlling factor is the convenience of holding tension on the wire while the fastener is being placed.

(3) *If a Busy Doorway or Passageway Must be Crossed.* Fasten the wire at this point first, or arrange the job in a manner to prevent the wire lying on the floor unguarded. This is a typical example of a job that can best be started in the middle and worked both ways, unless, of course, the wire can be kept in the coil and fastened as it is uncoiled.

Laying Out Wire

In many instances, even where the wire must pass through two, three, or four partitions, the wires can be threaded through all of the holes in the partitions, thus leaving the coil at one end and fastening back from the other end of the run. When the wire can be laid out safely this method will prove to be fast, economical, and will result in little damage to the wire. If possible, uncoil the wire and arrange along the floor at the starting end to prevent kinking as may be caused by pulling long lengths directly from the center of a coil.

Neatness

On the job neatness can be developed by any telephone installer. Generally, all that is required is a little planning and practice in doing the small things that make possible finishing a good job in the correct way. A small amount of effort by the workman in the matter of neatness goes a long ways towards pleasing the customer.

The following ideas by themselves may be insignificant items, yet, when considered as a whole, add up to an important part of the job. While these suggestions are offered primarily for the installation end of the task of rendering good telephone service, they apply equally as well to any repair or maintenance visits to the subscriber's premises.

(1) *Patching Holes.* Any old-timer will tell the new man of his experiences in drilling holes in the wrong places. Back in the days when lead water pipes were commonplace in most buildings, many telephone installers, after carefully drilling a hole through a partition, withdrew the installer's bit only to be greeted by a gush of water from a pierced lead pipe concealed in the wall.

Another typical instance of a mistake in measurement that occurs at least once in the career of every telephone man is making a fish from the second floor to the basement in a flat building only to discover later that the wire is dangling in the center of a room in the first floor flat. The installer's logical explanation usually centers around a mistake in selecting what was considered to be a "common" wall in both flats in which to make the fish.

When incidents similar to those just described occur, they appear to be very serious problems. However, no matter how serious mistakes appear when they occur, after a few months' time one can see the humorous side of such occurrences. For the present purpose, incidents of this sort serve to illustrate the need for the telephone installer to be equipped with a small box or bag of patching plaster and a tube or can of plastic wood compound.

Naturally, a pierced water pipe would call for the services of the local plumber. However, the plastic wood compound or patching plaster can be used to fill any holes that may have been drilled in error. While the subscriber may have made a last minute change in the location of the telephone, or although a fish wouldn't go down a wall (that's why it's advisable to drill the top hole for a fish first), still the hole should be filled.

Regular wood dough or plastic wood turns a very light color when dry. If the woodwork is stained dark and a commercial stain is not available, try a touch of iodine from the first aid kit on the spot. The resulting match may not be 100 per cent perfect, but usually it will be satisfactory until the next decorating period.

These same patching materials should be used to fill in holes which are made large for convenience of fishing, yet, too large for the wire used.

(2) *Matching Finish of Woodwork or Walls.* Station wire that matches the woodwork or wall surface goes a long ways toward "concealing" open wire runs and it also helps to make the finished job neater.

(3) *Care While Driving Nails and Staples.* The telephone installer should develop a technique of hitting the station wire nail or staple squarely without striking the wood work or wall surface. Chipped paint or dents in finely finished woodwork are unsightly and should be avoided.

(4) *Replacing Furniture.* Since telephone wire is run along the wall, furniture may have to be moved to facilitate the work operations. To be on the safe side, ask permission before moving any piece of furniture. An ordinary looking table may be a priceless antique that will fall apart if not handled correctly. When the work is finished the furniture should be replaced.

(5) *Cleaning Up.* If any loose calcimine or dirt falls to the floor while the work is in progress it should be cleaned up. The subscriber may volunteer to do the clean-up work, but, if handed a broom or sweeper the telephone installer can do a good job of selling the merits of the company if he proceeds to do a commendable clean-up job.

Obviously, there are many other small details that help to make any station installation job an easier or better piece of work. However, if all parts of the job are planned along these same general lines, satisfactory performance will become the general rule and not the exception.

Typical Installation—No. 1

The best kind of installation experience is gained on the job. Next best is discussion of typical jobs using artists' sketches to illustrate particular problems. Inasmuch as the problem at hand is the actual installation of a telephone with its associated wiring, station protector, and other essentials, cutaway views of typical contemporary homes will prove to have many advantages from the standpoint of this discussion.

The simplest installation is in a one-story house with full basement, as shown in *Fig. 1.*

The location of the telephone was selected at point "A" because it is in the "telephone center" of the house. That is, in this location the telephone will be most convenient. From this illustration a person can see all essential parts of the home at a glance. For the indicated station location a wall type mounting would appear desirable.

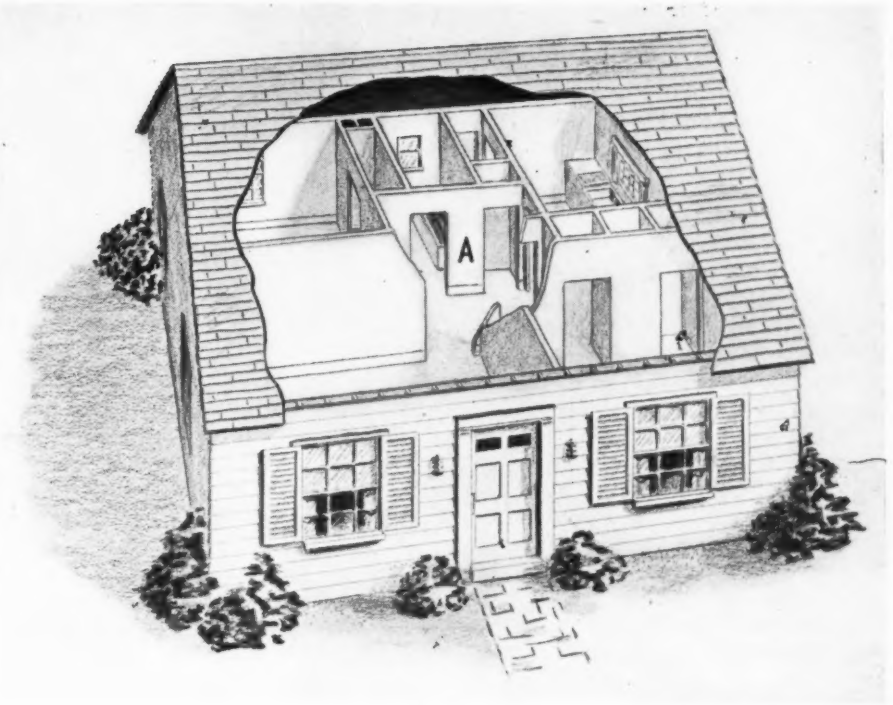


Fig. 1.

However, the subscriber may have a special telephone stand that is intended for this particular spot. In this event, a desk type telephone would be more satisfactory.

The wiring problem consists of placing the station protector in a suitable location either in the basement or on a side or rear wall, and, then, running the correct wire to the instrument. As discussed in a previous installment, before proceeding with the work in event the basement ceiling is unfinished, ask the customer if future plans call for closing in this ceiling. The answer to this question may be the determining factor whether or not the station protector will be placed inside or on an outside wall. If the ceiling is to be finished the wire should be run on the joist where it will not have to be moved at a later date.

The mechancial protection to be placed on the wire as it passes through the floor and over obstructions in the basement was covered in a previous installment.

Typical Installation—No. 2

This installation is in a ranch type home, shown in *Fig. 2.*

More and more of these rambling type homes will be found in practically every community. Usually, they are

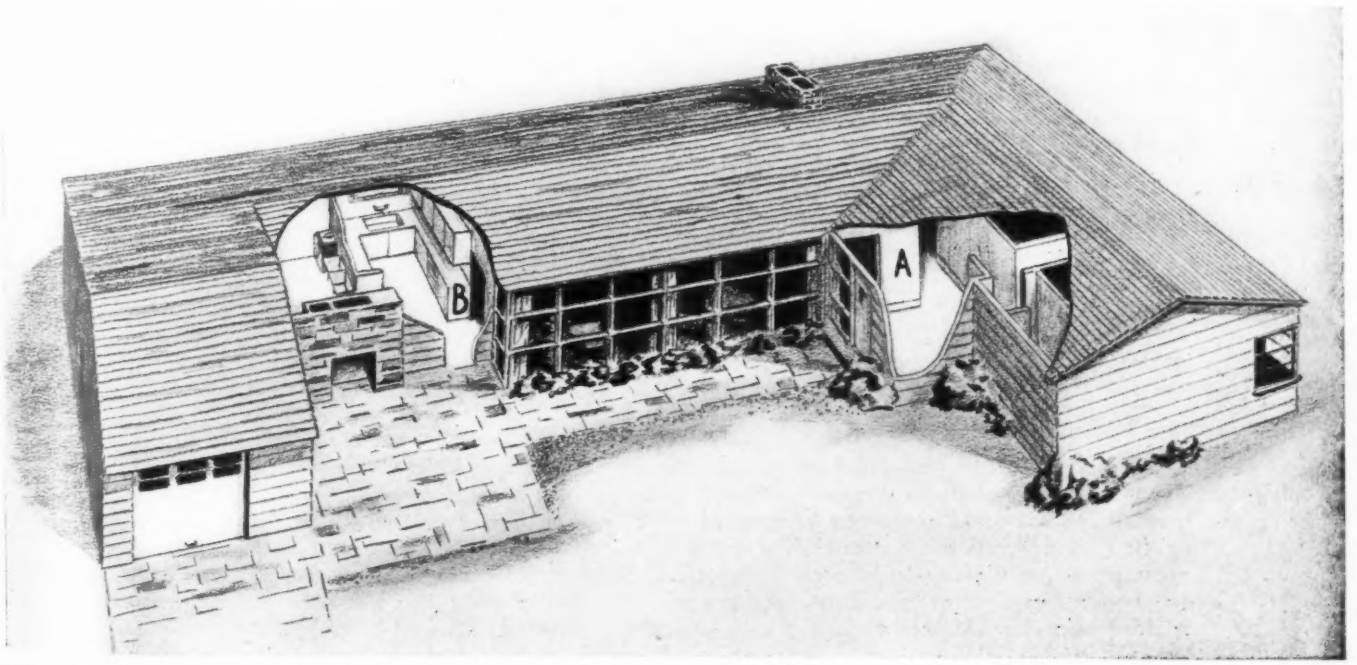


Fig. 2.

built on ground level and do not have a basement.

The desire for telephone convenience in the ranch type home has led this customer to order an extension instrument. A simple solution to the wiring problem would be to advise placing the wiring in a conduit installed for this purpose. However, this detail was overlooked in the plans of the home and the wire must be run open.

The station protector can be placed in the utility room shown adjacent to the kitchen or directly outside in an outdoor protector mounting. The main reason for this suggestion is the short wire run to a cold water pipe ground. If necessary the ground wire could be attached to a cold water pipe under the cabinet sink in the kitchen. If the location of the pole line would require a long drop wire run on the building, a properly installed ground rod would shorten the exposure on the building, and, also, would make a better looking job.

However, continuing on the original premise of mounting the station protector near the kitchen or utility room, the wire route to instrument location "B" can be concealed inside the kitchen cabinet. Use inside wiring nails, stables, or cleats and fasten the wire inside and along the back, top corner of the cabinet.

The route to location "A" can be handled in one of two ways. First, matching wire can be fastened along the woodwork through the combination dining-living room comprising the central section of the house. Perhaps there is a decorative valance over the large picture window facing the terrace. A wire fastened behind the valance would be concealed effectively.

The second route worth investigating is the possibility of an opening into the low-ceiling attic. The logical spot for such an opening would be in a centrally located closet, or there may be an opening from the attached garage.

If an attic opening is present, a small hole could be drilled into the attic from the utility room. Next form a small loop in the end of a two-foot length of No. 14 wire; tie a piece of white cloth in the loop; push the loop end of the wire about one and a half feet into the hole, and wedge in place with a plug made of friction tape. The white cloth will make an excellent location flag in the darkness of the attic.

Where space in the attic permits, the wire can be carried to the location of the signal flag; tied onto the wire fish, and fed down into the utility room.

Also, from the attic the installer may be able to locate the partition designated for instrument "A." If so, drill a hole from above into the center of the partition and drop in a fish string. The distance from the hall corner can be determined by the location of the right angle stud plate. Then, from the main floor level, drill into the partition at the desired level and fish out the string. To facilitate the operation, the free end of both the wire and the fish string can be tied together at the attic opening which may save crawling across the attic a second time.

Generally, the station wire need not be fastened when laid across the attic in the above manner. This procedure is advisable because the less pounding or working in an attic, the less the chance of loosening, cracking, or knocking out plaster from the first floor ceiling.

[EDITOR'S NOTE: Typical installations to be continued in next installment.]

TELEPHONE HOGS

Telephone service has become so much a part of modern living that its great convenience seems to be taken for granted. So much so, that use is now in danger of becoming abuse. With increasing frequency there are reports that subscribers engaged in personal conversation refuse to relinquish the line in cases of emergency. As a result, houses burn to the ground, or lives are endangered for lack of a doctor's services. This dangerously selfish refusal of cooperation is said to be particularly common on party lines, where two people can prevent use of the telephone by any one of the many other subscribers.

Telephone companies, battling with greatly increased demands for service, are beginning to stage educational programs aimed to train the public in the art, for it is an art, of ending conversations quickly and courteously. Telephone officials, who have stressed for so long the smiles in the voices of their operators, are now hoping to get quick and pleasant "goodbyes" from subscribers.

Perhaps we need to be reminded that the telephone, after all, is a utility to be used efficiently and economically for business and personal reasons alike. It should not be regarded as a private social luxury for the use of a few.—*Lebanon (Pa.) Daily News.*

A Happy Life

THE measure of a happy life is not from the fewer or more suns we behold, the fewer or more breaths we draw or meals we repeat, but from having once lived well, acted our part handsomely and made our exit cheerfully. During a long life I have proved that not one kind word ever spoken, not one kind deed ever done, but sooner or later returns to bless the giver and becomes a chain binding men with golden bands to the throne of God—**Anthony Ashley Cooper**

Opportunity

THE actual fact is that in this day Opportunity not only knocks at your door but is playing an anvil chorus on every man's door, and then lays for the owner around the corners with a club. Indeed, cases easily can be recalled by everyone where Opportunity actually smashed in the door and collared her candidate and dragged him forth to success. These cases are exceptional, usually you have to meet Opportuity halfway. But the only place where you can get away from Opportunity is to lie down and die. Opportunity does not trouble dead men, or dead ones who flatter themselves they are alive.—**Elbert Hubbard**

IN THE NATION'S CAPITAL

BY
FRANCIS X. WELCH
WASHINGTON
EDITOR

FCC plan for divisional organization outlined. . . . Ohio commission chairman urges state commissions to recognize acuteness of financial needs of telephone companies and recommends that prompt and expeditious handling of rate adjustments be effected.

FURTHER evidence that the Federal Communications Commission is trying to get off a political hotspot and play ball with the Republican majority in Congress was seen in the terms of a voluntary plan for reorganization of the commission. This plan was submitted by FCC Chairman Denny at the request of Senator White (R., Me.), chairman of the Senate's Interstate and Foreign Commerce Committee (TELEPHONY, July 26, p. 20).

Before going into a description of this FCC reorganization plan and how it might affect the telephone industry, a little background might be of interest. It was during the senate committee's hearings on Senator White's own bill (S. 1333) to split the FCC into two divisions, that Chairman Denny claimed such legislation was unnecessary on the ground that the FCC already has authority under the present Communications Act to divide itself up on a divisional basis.

There was good grounds for Chairman Denny's argument because, as a matter of fact, the FCC *did* have three divisions during the first couple of years of its organized existence. Some readers may recall when the FCC was divided up into a common carrier section, a radio broadcasting section, and a separate section for telegraph and cables.

But back in 1937, the FCC was having difficulty with a membership quite different from the membership of the commission today. Only Paul A. Walker remains on the commission from that date (and he also is the sole remaining charter member). The trouble—from the White House point of view in 1937—was that the FCC was *too* loosely organized, that the divisions had too *much* autonomy, and that certain individual commissioners were doing entirely too much talking off the cuff and embarrassing the administration.

And so, in the fall of 1937, the late President Roosevelt appointed former Chairman Frank R. McNinch "to put the fire out" in the FCC. He was supposed to be a "strong man" and a tough administrator. He was. One of his first acts was to abolish the division structure because he said they had a "divisive effect" which undermined mutual cooperation among members of the FCC as a whole.

Since that time the FCC has operated as a single body, even though the changing and expanding character of its various duties put a strain on even the most versatile qualifications of its members.

In plainer words, McNinch's idea of "knocking some heads together" in order to stop all of the loose talking on the FCC, might have been good medicine from the standpoint of saving the administration from political and other embarrassment. But it did not encourage specialization in individual staff and commission talents to the extent that the FCC's difficult over-all regulatory job required.

Today we have a different proposition facing the FCC. Its duties have been increased and the importance of its jurisdiction has multiplied enormously. Furthermore the earlier practice of using the FCC as a dumping ground for political hacks and "has beens" has fortunately passed for some time. Today the FCC, as a whole, is composed of serious-minded, qualified regulators, the majority of whom are even career men, reared in the tradition and business of regulating without political fear or favor. In this atmosphere there is sentiment in Congress for reorganizing the FCC along more practical working lines of operating divisions.

What the congressmen forgot or overlooked was the fact that the present law will permit that arrangement and that actually it had been done before. The situation recalls the wise observation made by the late respected regulatory genius, Joe Eastman, who said, "Good men can regulate under a poor law more effectively than unqualified men can regulate under the best of laws."

Of course, there was more in Senator White's bill than merely dividing up the FCC. But with the session drawing to a close and not much chance of progress on his measure, the Maine senator suggested that Chairman Denny submit his plan on the voluntary reorganization. He did and here it is in effect:

On or about Oct. 1, or whenever the FCC majority approves the new plan, there will be three divisions of the FCC: (1) Broadcasting—having jurisdiction over radio, television, and other radio-type services not on a point-to-point basis; (2) common carrier—covering telephone, telegraph, and point-to-point commercial radio, and (3) safety and special services—a miscellaneous group including aviation and marine radio signaling, etc.

The chairman of the commission (at present, Charles R. Denny) will be an *ex officio* member of all three divisions. Three other commissioners will serve as chairmen of each of the three divisions and they will serve on no other division. That leaves three other commissioners who will have to split their talents as associate members for double duty in two divisions each. The net result will be four commissioners in each of the three divisions.

Each division will have "autonomy" with respect to regulatory questions arising in its own area of jurisdiction. This means that, for example, a case involving a telephone company will come up before, and be settled finally by, the common carrier division of the FCC. There is one exception to this. Obviously, since all the divisions will have four members each, there will be the likelihood of a tie (two to two) vote on close decisions. In such a case the matter goes to the entire FCC membership of seven for final determination.

Each division of four members will elect its own chairman. But three members of the division membership

constitute a quorum sufficient for doing business.

How will the FCC commissioners be divided for different industries? Assuming that the FCC membership will approve Denny's plan, both the radio and telephone industries will naturally be interested in the individual commissioners who will be allocated to regulate their affairs. It is expected that Walker would be chairman of the common carrier division. The prospects also seem likely that Jett would be chairman of broadcasting and Webster chairman of safety and special services. As already noted, Chairman Denny would serve *ex officio* on all divisions, thus leaving Commissioners Durr, Hyde, and Jones to double their membership on two divisions. It is believed that Jones would serve in the common carrier as well as the broadcasting departments. But where would the somewhat left-wing Commissioner Durr serve? All of this, of course, is just educated guessing.

It also must be kept in mind that the whole plan has not yet been adopted by the commission. At this writing, at least, it is simply an interesting proposal by Chairman Denny on file with the Senate Interstate and Foreign Commerce Committee. Preliminary draft of the plan would merely put it into effect on a trial basis from Oct. 1, 1947 to Mar. 31, 1948. The idea would be that during the six months' experience the commission could decide for itself whether the plan was working satisfactorily.

• • •

The recent 59th annual convention of the National Association of Railroad & Utilities Commissioners in Boston, Mass., was, from all accounts, one of the best attended and successful meeting of all of the state commissioners' association. The telephone industry came in for its share of attention in the various speeches and committee reports.

Far outstanding in this respect was an excellent address by Harry M. Miller, chairman of the Ohio Public Utilities Commission, entitled "A Review of Current Telephone Rate Cases." Chairman Miller's paper contained not only an astute discussion of current telephone rate problems but also some charts and statistical information, the like of which this writer had not previously seen.

Particularly interesting was a chart showing the trend in telephone rates from 1940 through 1947, as compared with wholesale prices of manufactured products and factory wage earners. Needless to say, the telephone rates, especially when adjusted to exclude

"Must be pretty confidential."

federal excise taxes, show up exceedingly well as compared with other cost of living indices.

Chairman Miller also gave a sketch of the over-all telephone rate situation. In June of this year he said there were 158 cases pending before commissions involving the rates of Independent companies and 18 involving Bell rates. He stated that, since the end of the war, rate increases have been allowed at about 900 Independent company exchanges and that increases had been awarded Bell companies in 16 states. He said it had been estimated that the total amount of rate increases, granted and likely to be granted to Bell and Independent companies combined, was $100,000,000. He remarked:

I know of no means by which a telephone business can exist that is different from that by which any other business exists. . . . From my observations the temper of the people today is such that if it were a matter of alternatives they would overwhelmingly prefer good service at good and fair rates to poor service at low rates.

Mr. Miller stated that expenditures of the Bell System in the postwar period would probably reach 2½ billion dollars. He then said as to the capital requirements of Independent companies:

I have no idea as to the amount of money the Independents must raise, but their problems are much the same as those of the Bell System and an offhand guess would probably indicate that they might need as much as one-half billion dollars.

Speaking of the requirements for future telephone industry financing, Chairman Miller stated:

While it is no part of a review of this character I venture the suggestion that our commissions should guard against too great a ratio of debt to the total capital obligations of the industry in the financing programs now in progress. Surely we do not want to see this vast communication system operated by bondholders. It is obvious that the earnings of the industry must be adequate to make this huge investment sufficiently attractive to the many thousands of people who are expected to risk their money.

On the other hand the public has a right to expect that higher earnings will not be allowed than will be necessary to attract the needed capital to provide the facilities which it desires and that the value of that service will be worth the price. The determination of what such earnings must be is a very practical problem in economics requiring business judgment of the highest order and cannot be ascertained on the basis of any legalistic formula.

Today our commissions are free from such formulae, but we are bound in good conscience and by practical economics to fix rates which will provide a return adequate to attract capital at the time it is needed, to maintain the credit of the business, and thus to give assurance of the continuity and quality of the service.

The information furnished me by the various state commissions indicates, generally, that the regulatory commissions in the country have been mindful that during this period of rapid economic change prompt and expeditious handling of rate adjustments is necessary. It seems to me that one of the essentials in the whole matter of adjustments of rates is that the acuteness of the problem be quickly recognized and appropriate relief as promptly granted.

Next in interest to Chairman Miller's splendid paper, from the telephone point of view, was the report of the Special Committee on Telephone Regulatory Problems. Chairman Matt L. McWhorter of Georgia presented a review of the activities of that group. But this was, in effect, a recital of the telephone separation cost studies which were reported in these pages some weeks ago when they were first made public.

Two resolutions adopted by the association had to do with rural telephone bills in Congress—the Hill Bill and the Poage Bill which would authorize the Rural Electrification Administration to make loans for rural telephone service. The NARUC took no stand on the merits of either of these bills, but instructed its representatives to appear at any congressional hearings to protect the regulatory jurisdiction of the state commissions in case the REA co-ops should ever be authorized to go into the rural telephone business.

Walter R. McDonald, chairman of the Georgia commission, was elected president, succeeding Duane T. Swanson of Nebraska; Justus F. Craemer of California and Carroll L. Meins of Massachusetts were elected first and second vice presidents, respectively. All other officers of the NARUC were re-elected. The 1948 convention of the NARUC will be held in Savannah, Ga., the week after the national convention.

THE PLANT MAN'S NOTE BOOK

BY
RAY BLAIN
TECHNICAL
EDITOR

THE National Broadcasting Co.'s Television Station WNBW began operation officially in Washington, D. C., on June 27, 1947. This event was attended by 300 invited guests, including Chairman Charles R. Denny and members of the Federal Communications Commission, and prominent officials of the federal and district government.

Formal dedication of this station means the commencement of NBC network television operations between Washington and Station WNBT, New York City, where NBC has been in television since 1930. The Washington and New York stations will exchange television programs over the AT&T Co.'s coaxial cable.

• • •

The Bell System coaxial cable is now being used to carry television programs between Washington and New York City by way of Baltimore and Philadelphia. Eventually, coaxial cables will extend from coast-to-coast, making a nationwide television network a possibility.

Present plans of the American Telephone & Telegraph Co. call for completion of 11,000 miles of coaxial cable by the end of 1949. Cable already installed is as follows: New York through Philadelphia, Washington and Richmond to Charlotte, N. C. There already is cable from Jacksonville, Fla., to Atlanta, Ga., Jackson, Miss., Shreveport, La., and Dallas, Tex.

The installation of coaxial cable from Charlotte through Augusta, Ga., to Atlanta and from Dallas to Los Angeles will link New York and Washington to Los Angeles by cable in 1948. Television tests over long sections of this route will be initiated shortly thereafter. Other short lengths of coaxial cable now being used for telephone and telegraph service, and which will be used for television transmission are between Miami and West Palm Beach, Fla.; Cleveland and Buffalo; St. Louis and Terre Haute, Ind.; Minneapolis and Stevens Point, Wis., and Sacramento and Marysville, Calif.

At present, only the link between New York and Washington is equipped for television transmission. A second coaxial cable between New York and Washington is now under construction for probable completion in 1947. This will permit transmission of four television programs between New York and Washington and provide more flexible service than the present cable for the four television stations which eventually will be operated in Washington.

The New York-Washington circuit now in use can carry two television programs simultaneously, one northbound from Washington and one southbound from New York.

• • •

A letter received by the writer from Brig. Gen. George I. Back, Signal Officer for the Far East Command in Tokyo, states in part as follows:

"As you probably know, we have a Civil Communications Section which is charged with the responsibility of assisting in the rehabilitation of Japanese communication systems, both domestic and international. By and large, their equipment is reasonably modern, but has suffered immensely as a result of lack of maintenance during the war years.

"One interesting project that we have suggested within the city limits of Tokyo is the replacement of three pole leads on the same side of the street, with a single pole line to carry power distribution lines, a telephone cable owned by the Ministry of Communications and a telephone cable owned by the police department. In many instances, poles for the three leads are virtually set in the same post hole. Joint use of poles apparently never has been given consideration here in the past."

• • •

The Summer 1947 issue of the *Bell Telephone Magazine* makes the following statement:

"Two years ago it was learned that five and six-man cabs would no longer be commercially available in sufficient quantities to meet the system's large requirements. Besides being extremely difficult to obtain, many of them were too cramped, lacked desirable features and, in some instances, cost nearly as much as the entire body.

"The engineers went to work and came up with a three-man compartment located just behind the regular two or three-man cab. The compartment has its own doors and windows and is connected with the front cab by a bellows, with a large window opening between the two seating spaces.

"Many improvements were made with the comfort of the truck's crew in mind. The new compartment is insulated against the heat of summer and the cold of winter and can be uniformly heated when necessary. It is equipped with foam latex cushions, a collapsible desk or lunch table, and spaces for storage of lunch boxes. It has several advantages over the former cab design, including doors 60 ins. high instead of the standard 45 ins."

This certainly is a far cry from the old days when we nearly froze getting to and from work on a line. Then it was necessary for us to huddle together in an attempt to keep warm on a slow moving, open wagon drawn by two horses.

• • •

The July, 1947 issue of the *Reader's Digest* makes the following statement quoted from excerpts of *Popular Science Monthly:*

"Just now we are beginning to move radio broadcasting from the noisy, crowded, low-fidelity AM band upstairs to FM, where music sounds the way it's made, and there is room enough on the air for thousands of stations instead of hundreds. Not too far ahead lies a time when telephone and telegraph poles will be sold for firewood, and microwave relay networks . . . will cover the country, using wave lengths a few inches long to carry all oral and visual intelligence, including FM broadcasting, telephone calls, telegrams, television and facsimile. Tiny radio receivers and transmitters will become as common in vest pockets as fountain pens, with great savings in time, gasoline and shoe leather."

We never have been accused of not being progressive and we do not doubt that the above predictions may eventually come true—sometime. We do doubt, however, that wire communication will be replaced entirely during the lifetime of anyone now alive. At any rate, we do not recommend that you

begin chopping up your poles for firewood for the time being.

• • •

A new supersensitive, 20,000 ohms per volt, wide range test set, particularly engineered for reliable high-speed measurements in modern electronic circuits, should prove extremely popular in the telephone field. This set features an automatic push-button range and function selection system.

One row of five buttons selects all functions such as volts, ohms, mils, decibels, amperes and microamperes. The other row of six buttons selects all ranges. Fifty-four ranges, to 6,000 volts, 600 megohms, 12 amperes, 70 DB and 60 microamperes, 20,000 and 1,000 ohms per volt dc, 1,000 ohms per volt ac, are available.

PLANT MAN'S QUIZ

Q. How can lead covered cable be bent and formed in a manhole in order to prevent it flattening, but, at the same time, provide a neat job?

A. It is usually necessary to make at least two bends in a manhole to rack a cable properly. The first bend carries the cable from the duct entrance to the sidewall and the second, made in a reverse direction, places it in position on the rack. The end of the sheath should be removed from the conductors before starting the bend so that the conductors will be free to move. The cable should extend into the manhole two inches or more before starting the first bend. Plan the bends by placing a folding or flexible steel rule in the position to be occupied by the cable when forming is completed.

Next, use the rule to locate and mark the bends to be made on the cable. The bends can best be made by the use of an approved type of cable bender which can be procured from your telephone supply house. These benders consist essentially of a steel frame which supports three curved shoes arranged to push against the cable. The center shoe can be moved with relation to the end ones by either a rack and pinion or a hydraulic mechanism.

• • •

Q. We have some open wire circuits that extend about one mile from the cable terminal. Lightning is causing considerable trouble by burning out telephones even though lightning protectors are installed properly. What special precautions should be taken in this case?

A. It is assumed that protectors of an approved type are installed both at the telephone and at the cable terminals. If this has been done, make certain that low resistant ground connections are provided. In your case, it also is recommended that open space cut-out protectors be installed at one or more points on the open wire line. The greater the number of paths provided to ground on a circuit, the better will be the probability of reducing lightning trouble.

• • •

Q. What type of transposition bracket is considered best suited for use on the average open wire telephone line?

A. There are two standard methods of effecting a transposition between wires of a pair on a pole line. These are known as "point-type" and "drop-bracket" types. The point type is used extensively on carrier circuits because it does not change the configuration of the wires in adjacent spans. The drop bracket type is generally used on voice frequency lines.

There also has recently come into use a third type of transposition bracket known as the tandem type. This is essentially two double groove insulators mounted on each end of a break iron, the center of which is attached to a crossarm.

• • •

Q. What causes telephone bells to "jingle" where there is no one on the line, and how can this fault be corrected?

A. The bell may jingle when a set is jarred. This can also be caused by transient voltages induced on a line from natural sources or from a long power parallel.

The accepted remedy for this condition is to bias polarized ringers. This is accomplished by installing a light adjustable spring between the armature and the frame of the ringer in order to hold the clapper lightly against one gong.

• • •

Q. What is the meaning of the term "non-positional" transmitter?

A. This is a transmitter developed primarily for use on handsets in which the output is largely independent of position. This is accomplished in general by shaping the diaphragm and carbon-granule chamber so that it is impossible for the carbon granules to fall away from the electrodes and open the circuit.

• • •

Q. We are planning some new cable construction and are considering the placing of two 1,200-pair aerial cables on joint poles carrying 5,700-volt primary power conductors. One of these 1,200-pair cables will extend about 800 ft. and the other about 2,300 ft. from the exchange. Due to the fact that this is a permanent installation, is aerial cable considered satisfactory or should we attempt to justify the additional cost of underground? Also, will the use of joint poles prove objectionable for this type of cable construction?

A. If 1,200-pair cable is placed aerially, 16,000 pound, seven-sixteenth-inch strand must be used. This size strand will support 1,212-pair, 24 gauge; 909-pair, 22 gauge; or 455-pair, 19 gauge, maximum. If large aerial cables are installed, extreme care must be observed to obtain proper sag and tension of the strand to prevent bowing troubles. The majority of telephone engineers do not favor the use of cables larger than 400 to 600 pairs for aerial construction. While we do not have all of the details of your planned construction, it is our honest opinion that you should make every effort to prove in underground construction. The life of 1,200-pair cable if placed underground will be much longer than if it is installed aerially. The maintenance cost of underground also is considerably less.

The joint use of poles is entirely satisfactory if proper clearance can be obtained.

• • •

Q. What is considered a safe speed to pull large cables into underground conduit?

A. When the reel is properly placed at the manhole and a power winch is used, an average speed of about 90 ft. per minute is considered satisfactory.

• • •

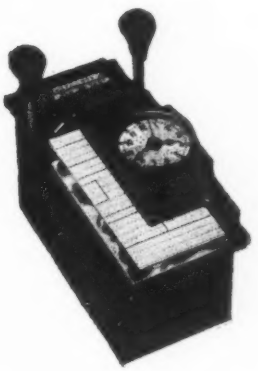
Q. Is it possible to make use of a small air compressor to flash test cable splices?

A. When hydrogen gas in cylinders is not available, compressed air, if dry, can be used for flash testing of cables. A special compressor which provides oil-free air is recommended for this purpose. The air also is forced through jars of desiccant to extract the moisture before introducing it to the cable.

TOLL CALLS

demand

PRECISION TIMING



The elapsed time data for billing purposes is obtained without computation when

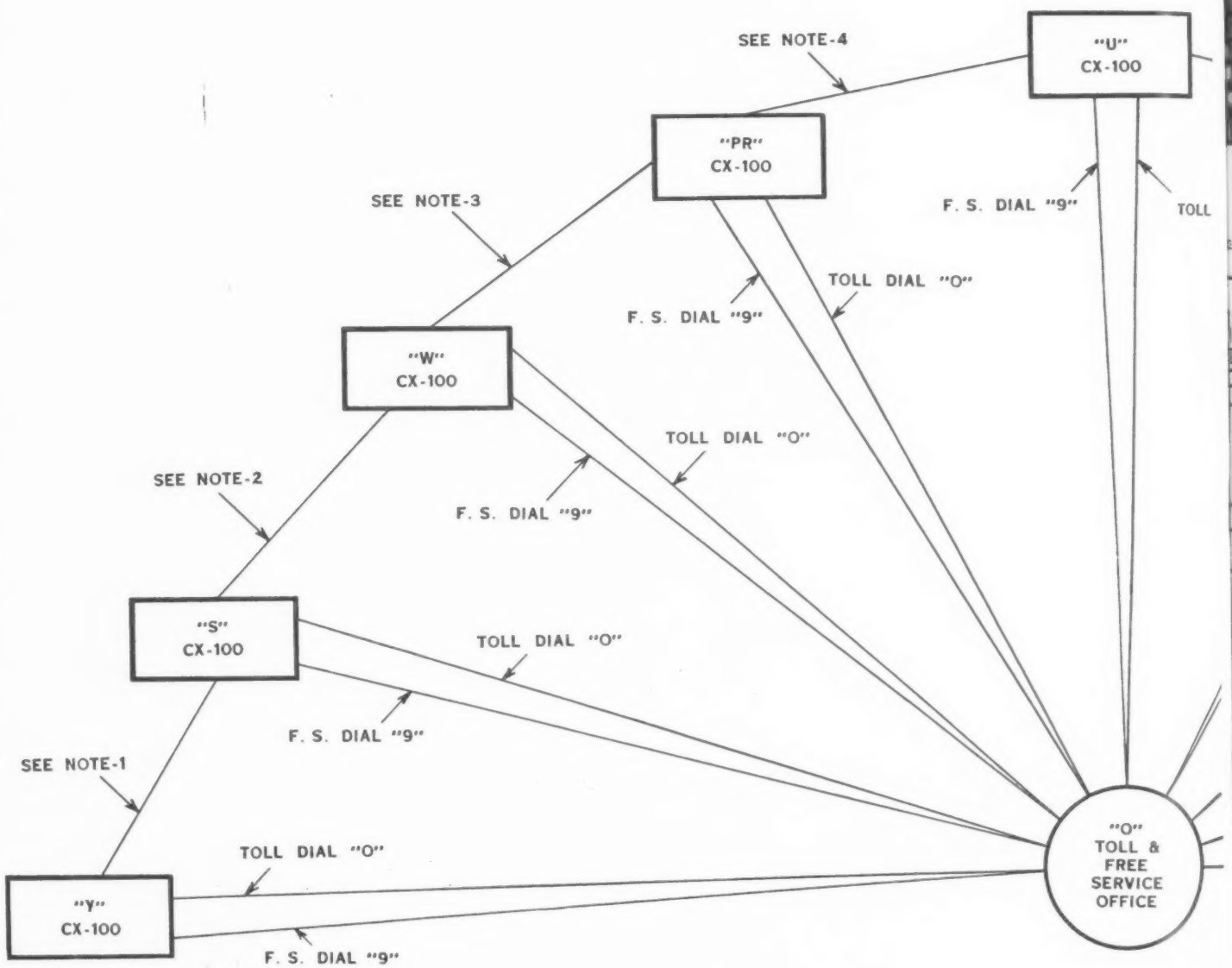
CALCULAGRAPHS

are used.

CALCULAGRAPH COMPANY

310 SUSSEX STREET • HARRISON, NEW JERSEY

LOCAL AND TOLL DIALING NETWORK

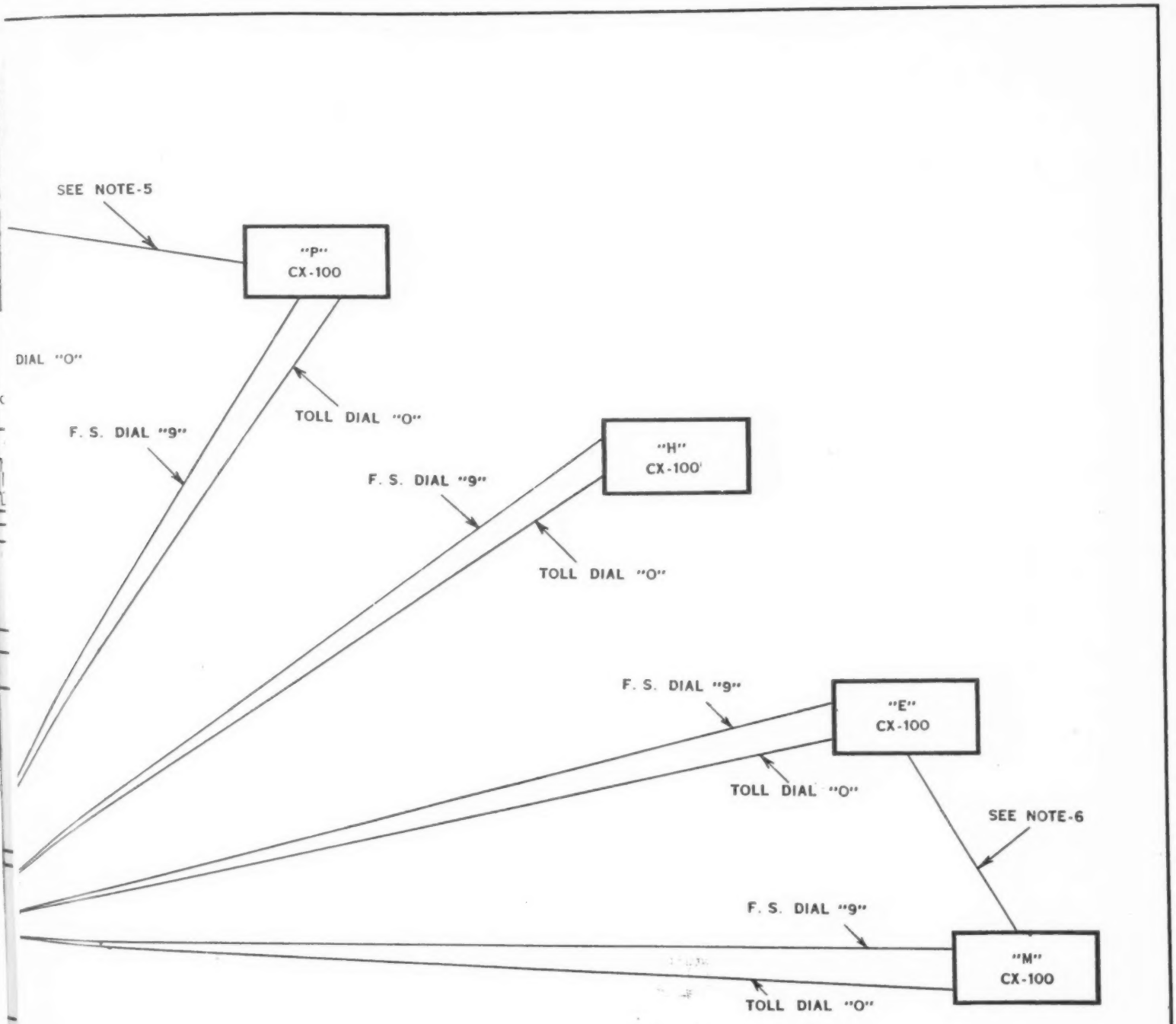


NOTE-1
F.S. TRUNKS ACCESSED BY DIALING "7" EACH WAY—REACHED BY AND CAN REACH ONLY LOCAL SUBSCRIBERS IN "S" & "Y" OFFICES.

NOTE-2
F.S. TRUNKS ACCESSED BY DIALING "6" EACH WAY—REACHED BY AND CAN REACH ONLY LOCAL SUBSCRIBERS IN "S" & "W" OFFICES.

NOTE-3
F.S. TRUNKS ACCESSED BY DIALING "7" EACH WAY—REACHED BY AND CAN REACH ONLY LOCAL SUBSCRIBERS IN "W" & "PR" OFFICES.

TRUNKING DIAGRAM FOR "O" NETWORK



NOTE-4
F.S. TRUNKS ACCESSED BY DIALING "6" EACH WAY—REACHED BY AND CAN REACH ONLY LOCAL SUBSCRIBERS IN "PR" & "U" OFFICES.

NOTE-5
F.S. TRUNKS ACCESSED BY DIALING "7" EACH WAY—REACHED BY AND CAN REACH ONLY LOCAL SUBSCRIBERS IN "U" & "P" OFFICES.

NOTE-6
F.S. TRUNKS ACCESSED BY DIALING "7" EACH WAY—REACHED BY AND CAN REACH ONLY LOCAL SUBSCRIBERS IN "E" & "M" OFFICES.

THE NORTH ELECTRIC MFG. COMPANY

Galion, Ohio

THE OPERATOR'S CORNER

BY
MAYME WORKMAN
TRAFFIC
EDITOR

OPERATING errors are a source of annoyance to telephone customers. "Central, you gave me a wrong number!" or, "Operator, you cut me off" are comments spoken with annoyance or exasperation.

Typographical errors are headaches to newspaper editors but they amuse the reading public.

In the April issue of *Good Housekeeping* a collection of the funniest printing boners down through the years were published. One of the gems which had the entire nation laughing was this line from Mrs. Eleanor Roosevelt's syndicated column: "After supper with the men, we went back to dress."

Others in the collection included:

"Sheer stockings designed for dressy wear. But so serviceable that lots of women wear nothing else."

"Attractive room — everything furnished—venetian blondes."

"Dewdrops on freshly blown noses."

"She had tight bridesmaids at the ceremony."

"The picture was posed by his two headed son."

Then says the article, there was the literal minded printer who received an order over the telephone ordering a ribbon for a funeral wreath.

"I want it to read 'Rest in Peace' on both sides," the customer directed. When the ribbon was delivered it read, "Rest in Peace on Both Sides."

Yes, printing boners are humorous to the reading public, but there is nothing funny about reading a wrong number or being disconnected in the middle of a telephone conversation, to the telephone using public.

We can avoid reaching a wrong number in serving our customers by being familiar with the principal causes for wrong numbers, which are:

Inattention in receiving order.

Acceptance of order which is not clearly understood.

Closing listening key too soon.

Confusion or transposition of digits, and confusion of similar sounding office names.

Improper overlapping, and failure to advance call immediately when order is received.

Failure to concentrate intently on called number until passed or disposed of.

Passing order incorrectly or indistinctly.

Poor enunciation or improper spacing in passing orders.

Cutting out too soon after passing, without giving customer chance to correct or "B" operator time to request repetition.

Accepting doubtful or indistinct assignment, or taking trunk not assigned (call circuit).

Unfamiliarity with the subscribers' or trunk multiple.

Failure to check bank and pack location and to make deliberate selection of the proper jack.

Failure to note multiple markings.

Failure to use slant test on multiple.

Misplugging — due to unfamiliarity with multiple, reaching too far, failure to use style strip method of locating multiple numbers, and failure to check multiple numbers when making connections.

Faulty ringing on party lines, or failure to set ringing key before plugging in.

Ringing wrong party line station on subsequent rings, due to inattention or failure to use or observe ringing indicators.

Improper code ringing.

Improper dialing or key set handling on calls to dial offices.

Improper adjustment of transmitter horn.

Unsatisfactory transmission or noisy operating room.

Cut-offs can be avoided by eliminating the following common causes which result in cut-offs:

Failure when disconnecting to associate cord and lamp, or trace cord when required.

Unnecessary handling of keys.

Disturbing plugs in adjacent jacks when disconnecting.

Mistakes in disconnecting for other operators.

Disconnecting instead of answering a recall signal.

On calls from magneto telephones, disconnecting without challenging when required or failing to wait for a response after challenging.

Faulty operation of cord signals or other equipment.

Removing and reinserting plugs in trunks.

Operating the ringing key on trunk calls.

The foregoing can be used by chief operators in meetings with their supervisors in reviewing the common causes for reaching a wrong number and for cut-offs.

The time is at hand when serious thought must be given to improving the quality of our service. This thought should originate with the chief operator, who in turn should convey it to her supervisory people, and they should pass it on to the operators at the switchboard.

Accuracy is one of the three essentials to good telephone service; therefore, every effort should be made to avoid the common causes of faulty service.

Typographical errors are funny to the reading public, but if the writer may indulge in a colloquialism, "It ain't funny, McGee," when a customer reaches a wrong number or he is disconnected.

Questions from Illinois Operators

(1) How can operators avoid ringing wrong numbers?

(2) What can the operator in a tributary office do when the toll center operator "bawls out" both the tributary operator and her subscriber?

(3) On an extension BY, how long are you allowed to hold the circuit, on direct and on built-up?

(4) What is the meaning of the phrase, "OD without assistance"?

(5) What action can be taken to avoid cut-offs?

Answers to these traffic questions are presented on page 39.

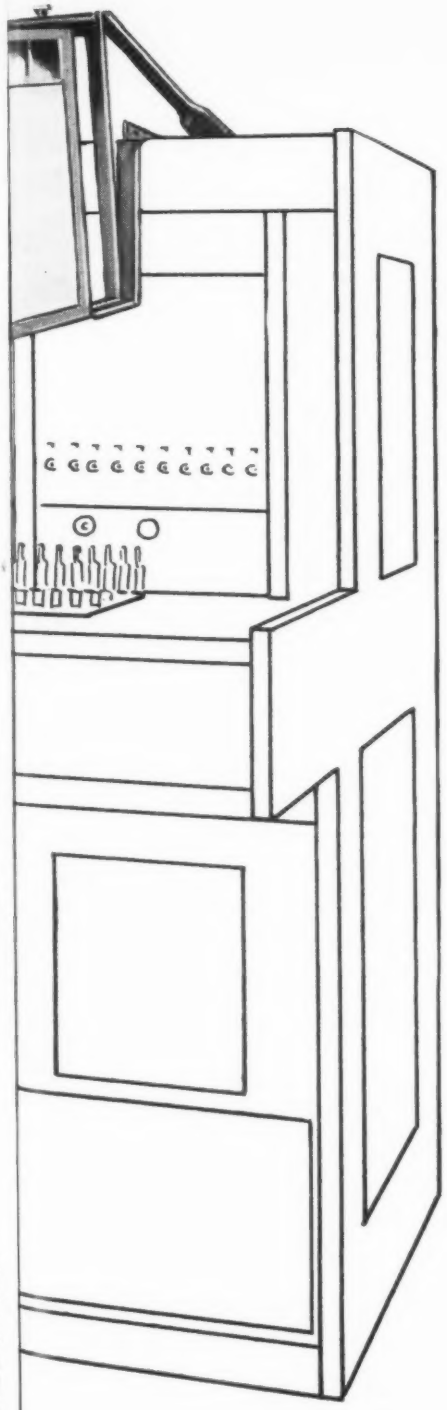
V V

Johnson Heads Yost Chapter Of Bell Pioneers

William R. Johnson, Omaha, Neb., vice president and general manager of the Nebraska-South Dakota area of the Northwestern Bell Telephone Co., was elected president of the Casper E. Yost Chapter, Telephone Pioneers of America, at its recent annual meeting in Omaha.

Roy R. Hartford, Omaha, toll construction engineer, was elected senior vice president; Fred E. Dunham, personnel assistant in the plant department, is the new secretary-treasurer. The chapter now has a membership close to 1,000.

ANGE TO THE TIMES



With These Three Cost-Reducing Aids

Now you can plug the profit leaks caused by obsolete, time-wasting switchroom equipment and practices. You can modernize your present methods—you can cut corners and costs—with these three labor-saving switchboard accessories:

1—ACME "FLEXOLINE" VISIBLE RECORDS

For A. B. Toll and Inward Toll Bulletins, Intercept Bulletins, Information Clerks' Records, Panel and Jack Records, Rate and Route Records, Operator Assignments and many other uses. Acme Records provide quick-reference data in compact and convenient form—any listing can be located in a few seconds.

2—THE CALCULAGRAPH

Records necessary information on toll and overtime calls—time of day in hours and minutes, and elapsed time to the second. Saves dollars otherwise lost in incorrect service charges. Assures correct toll and overtime charges, and provides a *printed* record which is more readily accepted by subscribers.

3—HARTER METAL CHAIRS

Sturdy, good-looking chairs, with the exclusive Harter "posture-aid" features that reduce nervous tension, conserve operators' energy, and encourage efficiency through increased comfort. Built of tubular steel for light weight; all joints airplane welded for greater strength. Fitted with casters or ball-bearing glides.

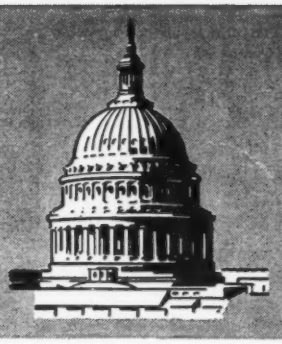
You can introduce these important time-saving and cost-reducing items in your exchange at low cost and without alterations in present plant equipment; normally, they will pay for themselves in a few months' time. Decide TODAY to gear your plant to the times, this easy and economical way.

RECOMMENDED AND DISTRIBUTED BY

AUTOMATIC ELECTRIC
SALES CORPORATION

1033 WEST VAN BUREN STREET • CHICAGO 7, ILLINOIS

COURTS and COMMISSIONS



Bell Granted Emergency Increase in Massachusetts

Effective immediately, the Massachusetts Department of Public Utilities on June 24 authorized emergency base rate increases for the New England Telephone & Telegraph Co. to produce additional revenue estimated at $405,000 per month. Business rates were increased 50 cents and residence rates 25 cents per month. Additional local message and message rate units will be increased by one-half cent each for both business and residential service.

Besides these, the company indicates that it will seek additional increases in rates within the next few months, and it is estimated that the additional revenues from such increases over and above the amount now sought will be $850,000 per month for Massachusetts. Thus, the total increase in revenue now sought and to be sought in the near future will be $15,000,000 per year.

V V

Carolina Commission Approves Rate Increases

The North Carolina Utilities Commission on July 22 authorized rate increases for the Andrews (N. C.) Telephone Co.

The new monthly rates are: $4.00 for one-party business; $3.25 for two-party business; $2.50 for four-party business; $2.50 for one-party residence; $2.00 for two-party residence, and $1.75 for four-party residence.

In approving a slight increase in rates, the North Carolina commission on July 22 also told the Polk County Telephone Co., Tryon, N. C., to either improve its services or let some other company serve its territory. The warning following receipts of complaints about the company's service from the Tryon Chamber of Commerce and Town Manager Claude O. Smith which were made in opposition to a request by the company for permission to increase its rates approximately $1.00 per month.

"This commission is of the opinion that unless the Polk County Telephone Co. shall, within 90 days from the date of this order, give definite assurance to this commission that it is in a position to install and maintain a modern type of service in lieu of its present system, the commission will consider the application of a party or parties who desire to supply this service," the order by the commission read.

At the same time, the commission, pointing out that the company had a deficit of $1,246 last year, allowed slight increases in the monthly rates. The new rates are: $4.50 for one-party business; $4.00 for two-party business; $3.10 for one-party residence; $2.60 for two-party residence, and $2.10 for four-party residence.

The new rates are effective Aug. 1 and replace old charges of $3.50 for one-party business wall sets; $4.00 for one-party business desk sets; $2.50 for one-party residence wall sets, and $3.00 for one-party residence desk sets.

V V

August Rate Hearings Set for Minnesota Companies

Hearings on the rate increase applications of the Long Prairie (Minn.) Telephone Co. and the Carver County Telephone Co., Norwood, have been set for August 20 and 26, respectively, by the Minnesota Railroad & Warehouse Commission.

The Long Prairie company is requesting the following monthly gross rates at its Long Prairie and Browerville exchanges.

Long Prairie Exchange: Individual line, business, from $3.25 to $3.75; two-party line, business, from $2.75 to $3.25; individual line, residence, from $2.00 to $2.50; two-party line, residence, from $1.75 to $2.00; four-party line, residence, from $1.50 to $1.75; rural switching stations, from 25 cents to 55 cents net.

Browerville Exchange: Individual line, business, from $2.50 to $3.25; two-party line, business, from $2.25 to $3.00; individual line, residence, from $1.75 to $2.25; two-party line, residence, from $1.50 to $1.75; rural switching stations, from 35 to 55 cents net.

For its Norwood, Ohaska and Waconia exchanges the Carver County Telephone Co. is applying for the following monthly gross rates: Individual line, business, from $3.50 to $4.00; two-party line, business, from $3.00 to $3.50; four-party line, business-Cologne, from $2.50 to $2.75; individual line, residence, from $2.00 to $2.50; four-party line, residence, from $1.75 to $2.00; four-party line, residence-Cologne, from $1.50 to $1.75; extension stations—business, from 75 cents to $1.00, net; extension stations — residence, from 50 to 75 cents, net.

V V

FCC Reclassifies Companies As Connecting Carriers

The Federal Communications Commission on July 10 reclassified two Independent telephone companies as connecting companies, under Section 2(b)(2) of the Communications Act, exempting them from the full jurisdiction of the commission. The companies are the Middle States Utilities Co. of Iowa and the Middle States Utilities Co. of Missouri.

The action was brought about when the FCC authorized the companies to discontinue interstate toll service.

V V

Wabasha, Minn., Company Asks Raises for Five Exchanges

The Minnesota Railroad & Warehouse Commission has named August 28 for the hearing on the rate increase application of the Wabasha County Telephone Co. of Plainview.

At its Plainview and Millville exchanges the company requests a 75 cent increase for its business one-party and two-party service and for residence, one-party; a 25 cent increase for business, multi-party rural magneto and also for business and residence, extension stations.

Proposed rates for the Elgin exchange would be 25 cents for all services except for multi-party rural common battery which would be $3.00 for business and $2.50 for residence.

Rural switching stations would be increased from 50 to 60 cents.

The company proposes for its New Richland and Waldorf exchanges the following raises: *Business:* One-party—New Richland, from $3.25 to $3.75; one-party — Waldorf, from $2.50 to $3.25; extension stations—New Richland, from 75 cents, net, to $1.00, net; extension stations—Waldorf, from 50 cents, net, to 75 cents, net. *Residence:* One-party—New Richland, from $2.25 to $2.50; one-party — Waldorf, from $1.75 to $2.25; extension stations — New Richland and Waldorf, from 50 cents, net, to 75 cents, net.

V V

S. D. Association Asks 75-Cent Maximum Switching Rate

An increase in switching rates was asked by the South Dakota Telephone Association, representing Independent companies, in an application filed July 18 with the South Dakota Public Utilities Commission.

A boost from the previous statutory maximum of 25 cents a month to what telephone officials said they believed should be 75 cents was asked. Separate applications will be filed by association members. The extent of the raise was not known immediately, it was announced.

South Dakota's 1947 legislature removed a limit of 25 cents for switching and gave the commission authority to set the maximum rate.

In a letter accompanying the association's application, W. A. Pirner of Delmont, secretary-treasurer of the association, said Ray Williamson, Aberdeen attorney, would appear for the association when hearings on the application are held at a date yet to be set.

V V

AT&T Asks Withdrawal Of Television Rates

The American Telephone & Telegraph Co. announced July 22 that it has requested permission of the Federal Communications Commission to withdraw tariffs previously filed covering rates for intercity television transmission which were to become effective Aug. 1, 1947. The commission was requested to approve withdrawal of the proposed rates without prejudice to a subsequent filing of tariffs for this service by the company.

The company stated that it was requesting withdrawal of the proposed tariffs to permit further studies of the technical problems. Present experimental television service over the New York-Washington coaxial cable which has been given by the company without charge to the television industry will be continued until final tariffs are filed.

First step in the building of a complete new central office for the Rocky Mount, N. C., exchange of the Carolina Telephone & Telegraph Co. was the recent ground-breaking ceremony for the new exchange building to house Strowger automatic equipment. Shown in the above picture are JOHN R. PORTER, chairman of the board, wielding the shovel, while L. W. HILL, president, looks on. Former SEN. W. G. CLARK, Tarboro, N. C., was master of ceremonies and speakers included officials of the Carolina company and leaders of the principal civic bodies.

The company stated that no change is contemplated in the basis of charges for pick-up and other wire and radio facilities provided by Bell System telephone companies for special point-to-point transmission of television programs.

V V

Minnesota Independent's New Rates Effective in August

A rate increase of twenty-five cents for all services was granted to the Hoffman (Minn.) Telephone Co. on July 22 by the Minnesota Railroad & Warehouse Commission. The telephone exchange, which serves approximately 114 local and 161 rural staticns, will be permitted to put the following rates in effect after July 31.

Class of Service	*Present Gross Rates*	*Proposed Gross Rates*
Individual line, business	$2.75	$3.00
Individual line, residence	1.75	2.00
Rural multi-party-company owned ...	1.75	2.00
Rural schools	1.00	1.25

Railroad Requests Authority To Install Telephone System

The Chesapeake & Ohio Railroad filed an application with the Federal Communications Commission on July 22 requesting authority to install a two-way public toll telephone system on two of its daylight trains between Washington, D. C., and Cincinnati, Ohio, said to be the first proposal of its kind.

The railroad will set up its own telephone lines parallel to its tracks. Conversations will involve a 30-foot radio span between the side of the car and the telephone wires. For outgoing calls, passengers will dial the operator, and the call signal, picked up by the telephone wires, will be received at the nearest regular telephone exchange. Incoming calls will be relayed through booster stations to be established along the right of way.

Each train will have six mobile units.

No charges for the service have been announced.

V V

Commission Approves Sale

The Minnesota Railroad & Warehouse Commission on July 22 gave permission to the Grant County Telephone Co. of Elbow Lake, to sell its property to the Minnesota Telephone Co. of Minneapolis. Included in the sale will be all property real, personal, and mixed, which the Grant company owns in Elbow Lake, Herman and territory adjacent thereto.

V V

20 Oklahoma Independents Get Rate Increases

Since more equipment and some materials are becoming available, there is a general movement among Independent telephone companies in Oklahoma to make improvements and extensions of service. Such betterments, in most cases, have been followed by applications to the Oklahoma Corporation Commission for increased rates.

These companies have found that costs of materials have increased from 25 to 50 per cent within the past year, adding to prices which were already high during and after the war. Because of tight allocations and shortages of most equipment and supplies, only emergency improvements and few extensions of lines were made during the war and the immediate postwar period. Also a relatively few applications for rate increases were asked by companies and only emergency increases were approved by the commission.

Now that most Independent companies are making or planning extensions or improvements in service, scores of rate increase applications are in pros-

pect. Several have been filed with the commission during the past month and are awaiting hearings on the fall docket. Others have not yet found a place on the docket because of its overcrowded condition.

The commission has followed the general policy of making all necessary increases in telephone rates where the reasonableness and necessity for such rates has been shown in hearings. H. W. Hubenthal, secretary of the Oklahoma Telephone Association lists in a recent bulletin the names of 20 small telephone companies which, with the help of the association, have been granted rate increases within the past 18 months. He is now working up the data for several other member companies which feel the need of higher rates.

As Mr. Hubenthal points out in his bulletin, most of the companies which have secured increases are receiving from $3.00 to $3.50 per month for business rates; from $2.00 to $2.25 for residence; from $1.75 to $2.00 per month for rural multi-party service; also additional charges for hand and desk sets have been approved.

He also points out that applications for conversion from magneto to common battery or dial service have been approved at higher rates than were previously in force after the improvement had been made and accepted by the commission and citizens of the town.

V V

Utilities Take Connecticut Sales, Use Tax Into Court

A ruling by Connecticut State Tax Commissioner Walter W. Walsh that telephone and public utility companies must pay the state's new sales and use tax on retail tangible goods they purchase for their own use and consumption is being backed by State Attorney General William L. Hadden.

"I believe Commissioner Walsh's reasoning on this point is legally sound and I believe such corporations are subject to the tax," Mr. Hadden said on July 24 after a long conference with the commissioner.

The two state officials conferred after the filing of a suit in Superior Court by five of the state's largest public utility companies for a declaratory judgment exempting them from the sales and use tax enacted by the 1947 Connecticut Legislature.

Mr. Hadden announced he was prepared to defend Commissioner Walsh in the suit and that he would prefer to have the case handled in the regular manner, that is, argued first in Superior Court before it is appealed to the state Supreme Court of Errors. He added, however, he would confer with attorneys for the utility companies on the procedure to be followed. A speedier decision could be obtained by taking the case directly to the Supreme Court.

MISS ARLENE A. MACK, Carlyle, Pa., daughter of MR. AND MRS. AUDREY MACK, and operator at the Carlyle exchange of the United Telephone Co. of Pennsylvania, who was the winner in District 10 of a state dairy queen contest. District 10 comprises six central Pennsylvania counties and the contest was conducted by the Production & Marketing Administration of the U. S. Department of Agriculture.

Mr. Walsh's ruling is being protested by the Connecticut Light and Power Co., the United Illuminating Co., the Hartford Gas Co., the Bridgeport Hydraulic Co. and the Southern New England Telephone Co.

The protesting utility companies indicated that if they had to pay the sales and use tax on such items as coal, generators, wire, and other materials, they would be forced to seek rate increases for their services through application to the Connecticut Public Utilities Commission.

The utility companies claim exemption under Section 7 of the Sales and Use Tax Act, which reads: "Taxes imposed by this act shall not apply to the gross receipts from the sale of and the storage, use or other consumption in this state with respect to the following items: The sales, furnishing or service of gas, water, electricity, telephone and telegraph when delivered to consumers through mains, lines or pipes."

The companies also cite other sections of Connecticut statutes which provide that taxes imposed shall be collected from utility companies "in lieu of all other taxation in this state."

V V

Hearing on VT&T Financing

Hearing on application of the Virginia Telephone & Telegraph Co. for authority to issue $450,000 in first mortgage sinking fund bonds was scheduled for hearing Aug. 1 before the Virginia State Corporation Commission.

V V

Oppose Illinois Commercial's Temporary Rate Increase

Thirty-one municipalities have filed a motion with the Illinois Commerce Commission seeking to vacate an order granting the Illinois Commercial Telephone Co. temporary rate increases. (TELEPHONY, July 12, p. 30.)

The commission set oral arguments on the motion for July 28 in Chicago.

Under the temporary rate boosts, effective last July 10, monthly bills of most individual residence telephone subscribers would go up from 75 cents to $1.25, according to company officials.

The motion was presented by the cities of Chatsworth, Coulterville, Kirkwood, LeRoy, Lexington, Monmouth, Macomb, Orient, Paxton, Piper City, Roberts, Saybrook, Mt. Zion, Kewanee, Teutopolis, Astoria, Fairbury, Flora, Donnellson, Elwin, Evansville, Lawrenceville, Armington, Carbondale, Heyworth, Elliott, Somonauk, Compton, Olney and Brimfield.

V V

Says Loan for Improvements Depends on Rate Increase

Success in securing of a loan of $15,000 to improve service and rebuild and extend lines at Kiowa, Stringtown, Clarita and Mill Creek, Okla., depends upon the granting of increased rates by the Oklahoma Commission, J. R. Butler, general manager, Oklahoma Automatic Telephone Co., which owns and operates telephone systems in those twons, testified at a hearing before the Oklahoma commission on July 24.

Unless increases in some rates are granted, the company cannot remain in business, Mr. Butler further testified. He pointed out that these exchanges have been losing money for several years; that two of the towns, Kiowa and Stringtown, have been made automatic, and that it has been necessary to rebuild most of the lines in Clarita and Mill Creek, owing to recent destruction of lines by storms.

Mr. Butler stated that during the month of June, 1947 the company experienced a total loss in the four exchanges of $253.38, without counting depreciation. From Jan. 1 to June 30, 1947 the loss for the four exchanges was $376.79, without depreciation being included. With depreciation included, the company lost $3,554.87 in 1946. Mr. Butler also testified to similar losses in 1945.

In spite of the fact that some rates in the above mentioned towns have not been increased within the past 30 years,

Mr. Butler testified that he borrowed money from the Reconstruction Finance Corp. and converted Kiowa and Stringtown to automatic operation and made other improvements there, increasing capital investment in Kiowa by $27,000. The additional loan will be required to rebuild the other two towns, he said.

Difficulty in securing wire has delayed rebuilding operations in Clarita and Mill Creek for several months, but several thousand pounds of wire are now on hand for most of these improvements. The cost of materials has increased about 25 per cent within the past year, Mr. Butler testified.

Testimony as to value and operations of the plant was given by B. Richardson, telephone engineer, and Paul R. Reed, general auditor, of the commission. Appraisals of the value of the properties by these two experts were in substantial agreement. Neither made any recommendations as to what the new rates should be.

Mr. Butler asked for increases ranging from 25 cents to $1.00 per month on some classes of service.

Examiner Willard Sollers, who heard the case, reserved announcement of his recommendations to the commission until a later date.

V V

Illinois Company's New Rates To Be Effective August 1

The Illinois Commerce Commission authorized the Leaf River-Egan Mutual Telephone Co., Leaf River, to file a classified schedule of rates covering service in Leaf River effective August 1, 1947. The company filed schedules on February 14 for all classes of services for $18.00 per year. The rates authorized were as follows:

Class of Service	*Net Annual Rate*
Individual, business	$30.00
Party line, business.....	21.00
Individual, residence	24.00
Party line, residence.....	21.00
Multi party, rural.....	21.00

V V

Seeks First Rate Increase In 27 Years

The Mooresville (N. C.) Telephone Co. July 24 asked the North Carolina Utilities Commission for permission to increase its exchange rates for both business and party lines. The company has had the same rate schedule for 27 years but said that needed salary increases and heavier maintenance costs make the requested increases necessary.

Increases sought are: One-party business, from $3.25 to $4.50 a month; two-party business, from $2.25 to $3.25; one-party residential, from $2.25 to $3.00, and four-party residential, from $1.50 to $2.00.

HIGH-SPEED DIRECTORY FOR NARUC MEETING

For the first time in New England, the New England Telephone & Telegraph Co. prepared a directory overnight for the convenience of the members and guests of the recent convention of the National Association of Railroad & Utilities Commissioners, meeting at the Hotel Statler, Boston, on July 14 to 17.

Listed in an eight-page folder were the names, titles, home cities, hotel rooms and telephone numbers of the 450 persons attending the gathering from the 48 states of the country. Names of those registered up to 4:30 p.m. on July 14 were rushed to the printer and "served up" the following morning at the meeting place.

Summary of Commission Rulings & Hearings

Federal Communications Commission

July 9: Granted American Telephone & Telegraph Co. permission to amend its tariffs, effective on not less than one day's notice, to remove the existing service suspension and reduce rates for overseas message toll telephone service and channels for program transmission between U. S. and Netherlands Indies.

July 10: Granted Middle States Utilities Co. of Iowa and of Missouri joint applications for authority to discontinue interstate toll line service and for reclassification as connecting carriers through the Northwestern and Southwestern Bell Telephone companies respectively.

July 10: Granted General Telephone Service Corp. experimental Class 1 radio station of four units to conduct microwave tests in attempting, through the modification of war surplus material, to provide inexpensive equipment for rendering prospective rural telephone service, short distance toll telephone and rural radio-telephone.

July 16: Granted American Telephone & Telegraph Co. of Dixon, Calif., modification of point-to-point radiotelephone station license to add Batavia, Java, as a point of communication.

July 17: Granted the Pacific Telephone & Telegraph Co. authority to discontinue operation of a telephone exchange at Donner City, Calif.; future service to be provided from the Truckee, Calif., exchange three miles distant.

Illinois Commerce Commission

July 22: Hearing on application of Illinois Commercial Telephone Co., Springfield, for increased rates and revision of rules and regulations for all exchanges.

July 22: Hearing on application of the Hutsonville (Ill.) Telephone Co. for an increase in rates.

July 23: Hearing on application of Illinois Bell Telephone Co. requesting that the commission not suspend increased rates filed by the company.

Kansas Corporation Commission

Sept. 8: Hearing on application of the Farmers Telephone Co., La Crosse, for authority to change rates at La Crosse, McCracken and Nekoma.

Sept. 8: Hearing on the application of the Viola (Kan.) Telephone Co. for permission to transfer its franchise and to cease operating as a public utility.

Sept. 8: Hearing on the application of W. F. Hanlon for permission to operate a public utility in Viola and vicinity.

Sept. 12: Hearing on the application of the Jetmore (Kan.) Telephone Co. for authority to change rates in Hodgeman County.

Sept. 12: Hearing on application of the Western Light & Telephone Co. Inc., Kansas City, for authority to change rates at Waterville.

Sept. 12: Hearing on application of Langdon (Kan.) Telephone Exchange for permission to transact business of a public utility.

Sept. 12: Hearing on application of the Leoti (Kan.) Telephone Co. for authority to change rates at Leoti and Wichita.

Oklahoma Corporation Commission

Sept. 5: Hearing on application of Newport Heights residents requesting their territory be declared open, enabling them to receive service from the Southwestern Bell Telephone Co.

Sept. 12: Hearing on application of Gotebo (Okla.) Telephone Co. for increased rates.

Sept. 12: Hearing on application of residents of Stigler asking (1) that Southwestern Bell Telephone Co. provide adequate service; (2) for an adjustment of business and residential rates.

Sept. 12: Hearing on application of Southwestern Associated Telephone Co., Lubbock, Tex., for increased rates at Texhoma, Okla.

Sept. 12: Hearing on application of Tryon (Okla.) Telephone Co. for increased rates.

Hearing date not set: Application by resident of Wayne for investigation of service by the Southwestern States Telephone Co. of Brownwood, Tex.

Pennsylvania Public Utility Commission

July 25: Hearing on application of Fishing Creek Telephone Co. and J. R. Rockey for approval of the sale by the former and the acquisition by the latter of all the property, rights and franchises of the company.

July 25: Hearing on application of Fishing Creek Telephone Co. for approval to dissolve.

TIME IS SHORT

Make your reservation for USITA 50th anniversary convention, Oct. 14-15-16, Stevens Hotel, Chicago.

Linemen Heroes

By HENRY F. UNGER

FOR a moment the line foreman gasped. His eyes were riveted on the screaming lineman near the peak of the 30-ft. high pole. Flood waters of the Chicopee River swirled near the snapping pole. Momentarily, the long wooden shaft seemed to hang in mid-air as the desperate lineman clutched frantically for assistance. Then slowly, the pole leaned toward the charging river. In a few seconds it crashed into the water, burying its rider in the foamy depths.

There was no time for deliberation. The lineman was heavily clothed and burdened with tools. Quickly he shot to the surface, gripping the pole. But the shock was too great. He lost his hold and submerged.

From the wall, the foreman, heavily clothed, dived into the rapid current. With strong, fast strokes, he swam for 30 ft. to the stricken lineman. Quickly he grabbed the lineman and crawled across the bobbing pole opposite the victim. Gradually he worked his way along the pole. With difficulty, he pulled the lineman onto the maneuvering stick.

Immediately, other workers attracted by the accident, tossed lines around the pole and pulled the lineman toward the shore. Eager to rest for a moment, the foreman reached out for a granite block on the nearby wall. Suddenly loosened, the huge block thundered past the foreman, scraping his arm and side, forcing him to the river bottom. Like a cork, the foreman rose to the surface, beyond the end of the wall. Caught in the main force of the current, the foreman was swept over a dam. He tumbled four feet into a lower pool. For a long moment, his feet were snagged in the debris. He was submerged. Kicking violently, he freed himself and rose to the surface. His strength vanishing, the foreman desperately swam for six feet, grabbed a piece of timber extending out from an abutment of the dam. He breathed deeply for a moment. Using his final ounce of strength he scrambled onto the timber. Workers helped him onto the abutment.

For this heroic attempt to save the life of Lineman Walter J. Wajca at Chicopee Falls, Mass., Line Foreman William J. Klimczynski was awarded the famous Carnegie Hero bronze medal from the Carnegie Hero Fund Commission.

His name was inscribed on the roll of honor at the commission's headquarters in Pittsburgh. For Klimczynski fitted Andrew Carnegie's definition of a "hero of civilization" — one who tries to save a life with full knowledge of the danger involved but with no thought of reward.

In the 43 years since the hero fund was set up, more than 3,300 persons have been immortalized in bronze, silver or gold medals. Many linemen are recognized in the commission's annual reports. Their stories tell of battles with water, poison gas, fire, electricity, wild animals—all waged on behalf of the other fellow. More than 38,000 applications have come in from hopefuls eager to record their deeds and win medals and cash. But standards of eligibility remain strict; otherwise, the fund soon would be exhausted.

No one is eligible who must save lives in the course of regular duty. This eliminates firemen, lifeguards and policemen. The professional, the commission believes, incurs far less risk than the amateur.

But there is no dearth of amateurs —certainly not among linemen. One afternoon in Wilson Mills, N. C., Lineman Lumus C. Coats, standing on the crossarm of a pole 43-ft. above the ground, extended a stick, with a steel pincer at the far end, toward a wire that was three feet above the crossarm and three feet from the pole. The wire was charged with 66,000 volts. Instantly a blinding arc set fire to the lineman's clothing. Coats fell backwards, his safety belt holding him to the pole. He slid down the pole until his legs were over the crossarm astride the pole. His head hung down while his back was against the pole. Unconscious, Coats' right arm swayed at times within six inches of a wire that was suspended 28 ins. below the crossarm and three feet from the pole. A similar wire was suspended 28 ins. below the crossarm, three feet from the opposite side of the pole.

Blinded momentarily by the flash, Lineman Alex N. Wiggs was horrified as he saw the plight of his fellow lineman. He was supported by a safety belt and climbing spurs, his head almost level with the crossarm. Immediately thinking that the victim's contact had caused the current to be shut off and convinced that it would be again turned on in five minutes, Wiggs quickly descended until he was clear of the wires.

His heart beating furiously, Wiggs swung around the pole, climbed swiftly to Coats. He yanked the stricken lineman's right arm farther from the wire. Coats' arm slipped from Wiggs' grasp. Again, Wiggs grabbed the arm. With difficulty, the hero raised Coats to a sitting position on the crossarm. Frantically, Wiggs reached for the long rope, which dangled over the crossarm above him. He quickly tied it to Coats and working rapidly released the victim's safety belt. Then he swung Coats' legs from the crossarm.

Meanwhile, other workers had rushed to the scene. They scurried up the pole. Swiftly, by means of the rope, the men lowered Coats to the ground. Wiggs' overalls were aflame. Guiding the victim to the ground, hero Wiggs continued to beat at the flames until they were extinguished.

The seeming eternity had been compacted into three minutes. The current was again turned on in six minutes after the shut-off. Almost all of Coats' clothing was burned off. Despite the valiant efforts of the hero, Coats died nine days later.

Disabled for six weeks, Wiggs' brave efforts were not forgotten by the commission, which awarded him a coveted bronze medal and $1,000.

Not all lineman heroics are confined to the rescue of their fellow linemen. Robert Gentile was busy working on a telephone line one day in Westerly, R. I., when suddenly he was startled by the coughing of an airplane engine above him. For a moment he watched the plane as the pilot attempted to repair the trouble.

Quickly, the plane lost altitude. Gentile was already half way down his pole when the plane crashed into brush-covered ground. With a bystander, Gentile ran a quarter mile to the smashed plane. For just a moment the lineman surveyed the situation. The pilot, seriously injured, lay four feet from the plane. Flames shot 25 ft. into the clear air from the nose of the machine. Gentile jumped when suddenly shots rang out. Ammunition was stored in the plane.

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Without further deliberation, Gentile and his assistant hurried to the stricken flier. He was quickly picked up and carried for 50 ft. Still walking with the flier, the heroes were thrown to the ground by a terrific explosion in the plane. Burning gasoline was hurled within 25 ft. of the trio. Ammunition exploded with rapidity. The trio remained on the ground, with Gentile lying atop the flier. Two minutes later, the explosions subsided and the lineman and the friend carried the flier 50 more feet away from the intense flames. In 10 minutes, a navy crash crew arrived and treated the flier for burns.

Defying death to save the life of another brought Robert Gentile and his companion each a bronze medal and $500. Gentile proved that he could be as brave on the ground as on the high pole.

There were no thoughts of hero medals in Russell J. Sell's mind as he worked near West Point Pleasant, N. J., one summer afternoon. Suddenly, the lineman heard a despairing scream from the Inland Waterway. His quick glance saw a young woman struggling in the water 80 ft. from the bank in 12-ft. deep water.

Instantly, Sell waded from the bank toward the drowning person. Fully clothed, Hero Sell swam for 100 ft with great exertion. He finally reached the woman, who was semi-conscious. He gripped her hair with one hand. She grabbed the front of his clothing and they both went under. Desperately, Sell jerked at his clothes but he failed to free himself. For a moment, he released his hold on the woman's hair and placed his left arm across her chest. Firmly, he held her back to his chest. He swam at an angle across the current. Weakening quickly, Sell stroked and drifted for 150 ft. Ten feet from the bank, Sell attempted to touch bottom and submerged briefly. Swimming a few more strokes, he got a footing. Exhausted, Hero Sell crawled on his hands and knees, dragging the young woman into the wadable water. A bystander waded to the woman, who was unconscious and took her to the bank. Without care for his own welfare, Sell hurried to the woman, on whom he worked until revived.

Saving Mildred L. Poole from a watery grave was a truly heroic feat and for his heroism, Russell J. Sell received a bronze medal.

Money awarded by the commission must be well spent. Not all heroes receive cash awards. Only the needy heroes win the financial assistance. The winner may need a house, a car, an operation, have debts to pay. If he is disabled by reason of his brave deed, he is particularly cared for.

Drama rode high one November afternoon in Vancouver, Wash., when Sub-foreman James G. White of a telephone company snatched Charles M. Benham, a telephone installer from death by electrical shock.

While Benham stood on a metal cornice of a building 60 ft. from the ground, he lowered a wire for a radio connection. The wire came in contact with another wire carrying 11,000 volts of electricity. As though hit by a train, Benham fell unconscious on the cornice in contact with the wire.

Despite the heavy rain and wet cornice, White, alerted by the sudden danger to Benham, hurried to the roof. With a handkerchief, he tried to lift the wire from the stricken man. A sharp shock coursed through his body, knocking him to the roof. Bystanders rushing to the roof pleaded with White not to attempt the feat again. White clambered onto the cornice, bringing a broom with him. Unhesitatingly, he moved the broom into the wire, dragging the wire 15 ft. along the cornice until it dropped free from the high tension wire. Benham, seriously burned, was revived and lived.

Quick thinking and a defiance of death brought hero James G. White a bronze medal and $1,000.

It was quick action on the part of lineman Frank S. Sharp which saved another lineman's life and rewarded the hero with a Carnegie bronze medal and $1,000.

Working at the base of a pole, 24 ft. high, Sharp glanced up at his fellow worker, Walter B. Demmy. He gasped. There was no time for thought. The husky Demmy, wearing spurs and a belt containing heavy tools, was shocked and was falling head first toward the ground.

Immediately, frail Sharp stepped directly under the falling lineman, braced himself and awaited the impact. Catching the stricken lineman around the neck and shoulders, Sharp fell violently to his knees. Demmy, his course changed, struck the street in a sitting position. Although serious injuries came to Demmy, he recovered, while the hero received only slight bruises for his heroism in Ephrata, Pa.

Not all linemen heroes live to receive their just awards. Such was the case when Sheldon J. Harris tried to save a lineman buddy, Kenneth C. Collier in Painesville, Ohio.

Both linemen were hard at work on a crossarm that was attached to two poles which were nine and one-half feet apart. Ten feet below the crossarm was a steel crossarm to which wires were charged with 2,300 volts of electricity.

Collier descended to the lower crossarm. As he stood and held to a guy wire, he was shocked. Harris, noting his buddy's plight, descended to the lower crossarm. Standing, without a hold on anything, Harris repeatedly struck Collier on the chest with his fist. Finally, he knocked Collier free from the guy wire and the lineman fell to the ground. Unsteadied, Harris fell onto one of the charged wires.

A short time later, with the current turned off, the brave hero was removed from the wire but he could not be revived, nor could his buddy, Collier. A bronze medal was given to Harris' widow, plus a $25 monthly payment to the widow and two children, not to extend beyond six years or her remarriage.

In all corners of America, linemen have seen their fellow-man in danger and they have risen to the occasion. That they have attempted to save him is shown by the long list of linemen heroes inscribed on the Carnegie honor roll for all to see. The danger was there, and the linemen were not lacking.

V V

Ohio Bell Has Museum Of Old Equipment

A unique museum composed solely of historical telephone equipment and pictures is an outstanding feature of the club room lounge at the Ohio Bell Telephone Co. headquarters building in Cleveland. This interesting display traces the history of telephone communications and the growth of the Ohio Bell system from its start to the present modern system.

When the museum was started 12 years ago there was but one display case of equipment. Today, the display occupies a good sized section of the lounge, and is viewed by thousands of people each year. The idea for the historical museum was originated by D. H. Morris, formerly assistant to Ohio Bell's president, Randolph Eide, now retired. N. C. Kingsbury Chapter No. 2 Telephone Pioneers of America sponsors the museum.

Responsible for much of the success of the museum, and one of the largest contributors of historical objects, is Clarence A. Swoyer, Columbus, state chairman of the N. C. Kingsbury Chapter historical committee. Presiding over the museum is Waldo D. Butler, who was named as curator for the historical display when the museum was started.

GEORGE E. WALROTH, who recently was elected president of the Frank H. Woods Chapter of the Independent Telephone Pioneer Association. (TELEPHONY, July 12, p. 41.)

Telephone Subscribers Oppose Excise Taxes

Excerpts from letters received from 116 telephone subscribers by Independent telephone companies throughout the country, opposing the continuation of the federal excise taxes on telephone service were sent to the House Ways and Means Committee on July 12 by H. V. Bozell, New York City, chairman of the Tax Committee of the United States Independent Telephone Association.

Mr. Bozell appeared before the committee on May 21, at which time he urged that the excise taxes on telephone service be abolished

In transmitting the excerpts from the letters of telephone users, Mr. Bozell made the following statement to the house committee:

"The Tax Committee of the United States Independent Telephone Association believes that the attachments hereto are representative of the feeling throughout the country that telephone service should not be classed as a luxury and that it should not be subjected to excise taxes. Perhaps the attachments may be of assistance to your committee in formulating your plans for a sound postwar tax structure. As a matter of fact, we believe that they are strong arguments for immediate or early action in eliminating excise taxes on telephone service."

V V

Gets "Good Neighbor" Award

Harry L. Peterson, O'Neill, Neb., manager of the Northwestern Bell Telephone Co., recently received the "good neighbor" award by the O'Neill chamber of commerce for his activities in Boy Scout work.

You can "bet your life" on these
BUCKINGHAM
Stephens CLIMBERS
with over 45 years of proved reputation . . .
FOR QUALITY Superior workmanship, advanced design, and the finest materials are combined to give these famous Stephens Climbers a margin of quality unmatched for nearly half a century.
FOR SAFETY These rugged climbers are designed and tested with one principle in mind — safety for the lineman! Drop impact tests, magniflux tests, Rockwell tests, detailed final inspections . . . all give that extra margin that distinguishes Buckingham safety.
FOR COMFORT Here's why Buckingham Climbers are more comfortable, less fatiguing to the lineman . . .
• Shank gives a perfect leg fit. Climbers in all sizes, 14" to 20".
• Wide standing surface is slightly rounded to fit the foot.
• Round loop will not cut the straps.
• Gaff is hammer-forged from special tool steel, and properly located to support the foot of the lineman, causing less strain in climbing, maximum comfort in standing.
FOR DURABILITY The best materials plus high standards of experienced workmanship give these climbers a durability that guarantees years and years of heavy duty, rugged service.
Three different weights: Medium, light, feather. Straight and offset.
SEE YOUR DISTRIBUTOR
Now more than 400 outlets handling Buckingham Equipment.
Order from Your Telephone Supply Dealer
BUCKINGHAM MANUFACTURING CO., INC.
Walter E. Craw, Pres. 5-7 Travis St., Binghamton, N. Y.

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SAVE LABOR!

Fewer holes to dig; less material to be handled, installed and connected.

SAVE MAINTENANCE!

Fewer poles mean less maintenance. High strength reduces possibility of breaks.

Write for Your Copy

of Manual No. 203! It is filled with interesting and factual information on how to build better rural lines at lower cost per mile.

Distributed by Leading Jobbers

INDIANA STEEL & WIRE COMPANY

Muncie, Indiana

First of the roadside telephones installed for the benefit of motorists in cases of emergency on the new stretch of Route 25 between Newark and Elizabeth, N. J., has been installed by the New Jersey Bell Telephone Co. in cooperation with the New Jersey State Highway Department.

A bright red roof marks the booth which will be one of three along the section where there are few public telephones available at night in service stations and other highway business places.

There is a setback along the highway in front of each booth so that those using them can get out of traffic. (Photo, courtesy New Jersey State Highway Department.)

Talmage Describes TVA Communications Before AIEE

A detailed description of the coordinated communications system of the Tennessee Valley Authority was given in a technical paper before the summer general meeting of the American Institute of Electrical Engineers, recently held in Montreal, by T. DeWitt Talmage, communication and signal engineer, Department of Power Engineering and Construction, Power Engineering and Design Division of TVA.

Mr. Talmage's paper before the telephone industry for his work as engineer of the Illinois Telephone Association, a position he held for many years, and by his many technical articles published in TELEPHONY.

Mr. Talmage's paper before the AIEE described communication and control systems used by the TVA, principally to expedite the operation of its multiple-purpose dams, electric power generating stations, transmission lines, and substations. Seventy per cent of the 10,000-mile communication and control system is obtained by carrier channels superimposed upon power lines.

Mr. Talmage explained the relationships which exist between carrier channels that are utilized for pilot relay, remote trip, telemeter, automatic load-frequency control and telephone purposes. Close engineering coordination of 45 telephone switchboards, including 13 of the automatic type, and a variety of kinds of telephone circuits, totaling over 6,000 miles in length, permits the rapid handling of telephone traffic, Mr. Talmage stated. The basic equipment used in establishing these circuits and their flexible interconnecting arrangements is standardized and the units are applicable to systems of any size.

As the TVA communication and control systems were developed during the past 12 years, each constituent part thereof was thoroughly tested for practicability, Mr. Talmage said. Operating experience indicates that a properly balanced combination of modern communication and signaling facilities, used in conjunction with leased circuits and services, can meet the exacting needs for constructing, maintaining and operating a wide-spread flood control, navigation, and power project, he stated.

Direct communication circuits between key points furnish fast telephone service to important locations. That the types of standardized systems used by TVA meet basic requirements is attested by successful everyday operation, one example of which is the satisfactory handling of telephone calls at the rate of 2,500,000 messages a year.

Mr. Talmage qualified as an associate member of the American Institute of Electrical Engineers in 1925 and trans-

ferred to member grade in 1940. He has served on the institute's communication committee, and is currently a member of the power systems application of carrier current committee.

Mr. Talmage is also a member of the Institute of Radio Engineers, and is a registered professional engineer in the state of Tennessee. He has contributed many articles to the technical press and is joint author of the AIEE paper, "Carrier Current Relaying and Communication on the TVA System."

V V

Dial System Replaces State-owned Board

Dial service, installed this summer by the Interstate Telephone Co., Spokane, Wash., replaced a state-owned manual system at Lakeland Village, Wash., formerly known as the Eastern State Custodial School.

Increased efficiency by doctors was an immediate result of automatic telephones, reported L. F. Mason, superintendent of the institution. Valuable time often was lost with the old manual system because the staff had to go considerable distances to answer calls, he said.

Better fire protection for the capacity total of 1,415 inmates is another asset of the faster service, the superintendent added.

The dial network of 68 stations covers a 40-acre campus plus barns and a farm. Equipment was installed in an airtight room on the ground floor of the administration building by the Interstate company.

V V

Pennsylvania Company Reporting Wins Award

For the second consecutive year, Pennsylvania Telephone Corp., Erie, Pa., has been awarded the "highest merit award" for meritorious reporting in its 1946 annual report, by *Financial World*, a weekly publication circulating to business concerns and executives. The 1946 telephone report is now to be considered as a candidate for the "Oscar of Industry."

In 1946 the annual report of Pennsylvania Telephone Corp. received the certificate of "Third Best of the Communications Industry." All of these reports were prepared by Carl H. McKenzie, secretary-treasurer of the Pennsylvania corporation.

It was announced also that Ohio Associated Telephone Co., of which Mr. McKenzie is also secretary-treasurer, was awarded the "Highest Merit Award" for its 1946 report.

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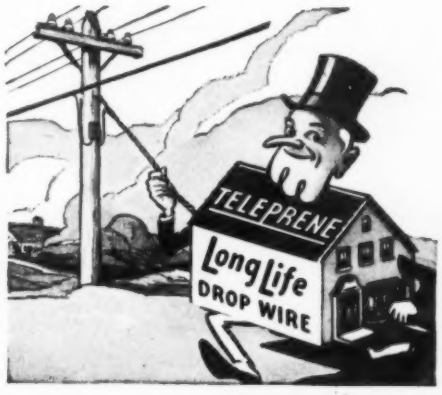
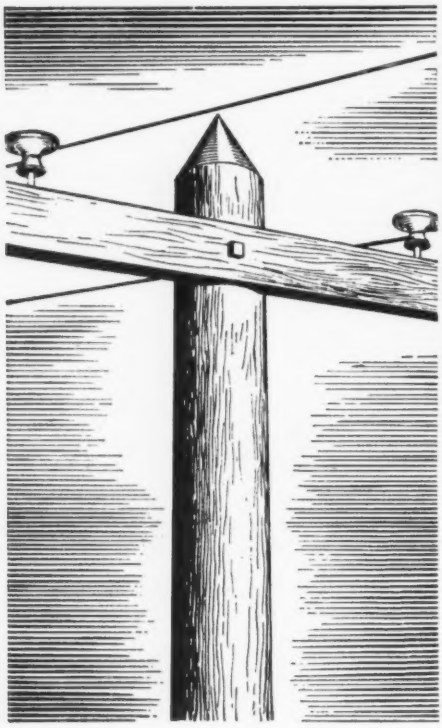


THE WHITNEY BLAKE CO.
New Haven, Conn.
Well Built wires since 1899

PROGRESS IN INSULATORS 2.



★ 1845 ★

Glass "bureau knob" insulators

EZRA CORNELL substituted a glass "bureau knob" insulator for the notched crossbars originally used. The wire was supported by wrapping around the knob shanks. This insulator worked better than glass plates, but it lacked mechanical strength and there was still leakage in wet weather.

One of the first manufacturers of insulators, Hemingray keeps pace with the requirements of modern communication circuits.

Write for the complete historical outline of insulator development.

HEMINGRAY INSULATORS
Owens-Illinois Glass Company
Hemingray Division, Muncie, Ind.

E. O. HAND, center, Springhead, Fla., navy veteran, makes first call on his new telephone which was the 100,000th instrument installed by the Peninsular Telephone Co. CARL D. BROREIN, left, company president, and R. L. MEHAFFEY, Plant City manager, were there for the milestone.

Peninsular Company Installs 100,000th Telephone

Installation of the company's 100,000th telephone was witnessed recently by President Carl D. Brorein of the Peninsular Telephone Co., Tampa, Fla., and R. L. Mehaffey, Plant City manager, to mark a 100 per cent growth in the company's facilities in the last decade. The company also has 12,000 unfilled applications for service.

The instrument was connected for E. O. Hand of Springhead, a community just outside Plant City, an exchange of the Peninsular company. Mr. Hand, a veteran of 46 months in the Navy, had been waiting more than a year for his telephone.

Installation of this 100,000th telephone was a milestone in the history of the Peninsular company, which, in 46 years, has grown to be the second largest Independent telephone company in the United States. It was incorporated March 25, 1901, by the late W. G. Brorein.

At the beginning, the company served 54 subscribers which grew in five years to 3,370. At the end of the first World War there were 11,000 stations, and this number jumped to 18,500 at the beginning of 1923.

Biggest single jump in Peninsular's history came in 1923, when overnight it added 5,278 stations—by purchasing the St. Petersburg exchange. This brought the company's total telephones in service at the close of 1923 to 26,700 at the beginning of the Florida boom.

In the next year, the company gained 6,000 stations — as many as it had accumulated in its first six years of existence. The following years it added 10,000 more telephones—a 20 per cent gain—to reach 42,540 at the close of 1925.

From a telephone standpoint, the high point of the boom was reached in March, 1927. The Peninsular company then had 50,736 stations in service. After that a gradual decline was started that reduced the number to 46,000 at the end of 1931.

A big drop came in 1932, the year ending with 42,800 stations in service. The low point in the general depression was reached in August, 1933, when only 39,181 telephones were connected.

The next four years were ones of steady growth, however, bringing the system's telephones back up to the high point reached in the boom. During the latter days of 1937, the total hit 50,000 This date and total accentuate what the last 10 years have been like.

In 1941, the total had risen to 64,000; in 1943, to 77,000; and in 1944, to 82,000. Ten thousand telephones were added in 1946.

Now, six months later, after the 100,000th installation, Mr. Brorein said, for every 10 persons now having service, there is another one waiting for it.

The company is pushing a postwar expansion program, scheduled to cost at least $5,000,000 for completion. Only one small exchange remains to be converted for the system to be 100 per cent dial operated.

V V

Ohio Associated Buys Company

The Lynchburg-Mt. Crab Telephone Co., Lynchburg, Ohio, has been sold to the Ohio Associated Telephone Co., Marion, it was announced recently. The former company was principally owned by George Martin and Ward Snook, both of Columbus, and has been under their management for the past 20 years.

Michigan Bell Installs Power Line Carrier System

A new power line telephone carrier equipment system has been installed at Crystal Falls, Mich., by the Michigan Bell Telephone Co.

The service permits the transmission of six telephone conversations and 2,400 volts of electricity simultaneously over one line.

The newly equipped, 20-mile line between Crystal Falls and Way Dam initially serves 24 rural subscribers. The service was made possible by a cooperative construction project between Michigan Bell and the Wisconsin-Michigan Power Co.

Ordinary telephone current is converted into high-frequency radio impulses and put on the power line. At a telephone central office, similar equipment separates the radio impulses from the electric current and converts them back into regular voice frequencies.

V V

Northwest Independent Pioneers Elect Officers

All officers and members of the executive committee of the Northwest Chapter of the Independent Telephone Pioneers Association were re-elected at the organization's annual breakfast meeting June 28 at Hood River, Ore.

A. T. West, retired telephone veteran living in Seattle, Wash, remains president. D. O. Hood, Medford, Ore., general manager of the Columbia Utilities Co., is vice president for another year and J. W. Baker, Coeur d' Alene, Ida., general agent for the Interstate Telephone Co., is secretary-treasurer.

On the executive committee are G. W. Wells, Sheridan, Ore., plant superintendent, Northwest Telephone Co.; G. J. Stover, Mount Vernon, Wash., president and general manager, Skagit Valley Telephone Co.; C. E. Johnston, Spokane, Wash., president and general manager, Interstate Telephone Co.; Wade H. Dean, White Salmon, Wash., president of the Oregon-Washington Telephone Co., and G. E. Kreiger, Everett, Wash., assistant general manager, West Coast Telephone Co.

Walter A. Boro, Spokane, traffic superintendent of the Interstate company, was chairman of the nominating committee at the breakfast session. Secretary-Treasurer Baker made his annual report to some 50 telephone pioneers present.

Dawson Heads Wolverine Pioneer Chapter

Theodore H. Dawson, Detroit, is the newly elected president of the Wolverine (Mich.) Chapter of the Telephone Pioneers of America. In this role he will head 2,900 Michigan members.

Mr. Dawson is a general development supervisor for the Michigan Bell Telephone Co. and has been with the company 32 years.

Lowell Johnson and James M. Cleland, Detroit, were re-elected secretary and treasurer, respectively.

Answers to Traffic Questions On Page 22

(1) Please refer to the preface for the answer to your question.

(2) Report the condition to your supervisor or chief operator so that she may refer the matter to the chief operator or supervisor in the toll center office.

(3) Three minutes on direct and five minutes on a built-up circuit.

(4) This phrase is unknown to the writer.

(5) Please refer to the preface for the answer to your question.

To aid efficient communication in business—and greater utility of the telephone — Thomas A. Edison, Incorporated, offers its Electronic Voicewriter with Quadraphone which provides controls to record telephone conversations as well as ordinary dictation . . . equipped with automatic volume control to equalize near and far voices.

The Director Model of the new Edison Electronic Voicewriter may be equipped with hand or desk Quadraphone. "Ear-Tuned Jewel-Action"—which is an exclusive Edison feature — makes the speaker's shouts or whispers sound as they should . . . electronically . . . so that they are clear and understandable to the transcriber.

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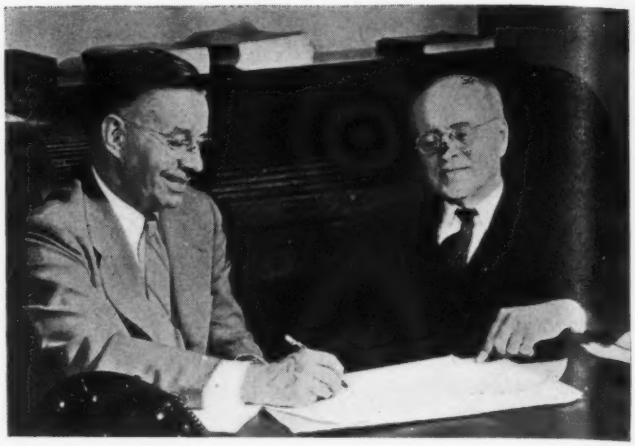
In Canada: Thomas A. Edison of Canada, Ltd., Toronto 1, Ontario

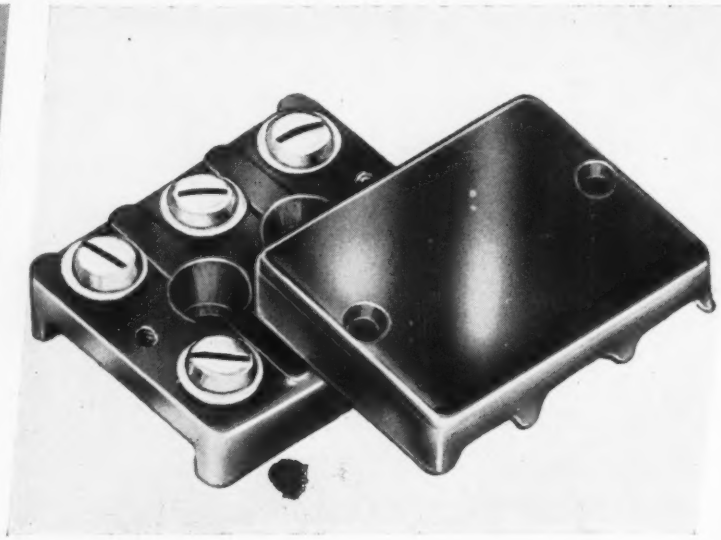
Georgia Forests Net 150,000 Line Poles

The forests of Georgia during 1946 produced 150,000 telephone and power line poles valued at $500,000, according to a compilation by the U. S. Forest Service. In the five southeastern states there were during the same year 4,000,000 such poles produced at a value of $12,000,000.

The demand for such poles is increasing, the Forest Service says. In Georgia alone, it estimates, there are 61,000,000 trees which, if properly safeguarded, could grow into poles.



HARVEY H. STANLEY (right), chief installer for the Kellogg Switchboard & Supply Co., turns over his duties to R. M. SCHOFIELD, his assistant at Kellogg for the last five years.



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immediate delivery on 2, 3, and 4-post models

Murdock connection blocks save installation time, assure foolproof connections. The insulating covers have partitions between each pair of connections to prevent shorts. Cover is attached by two brass screws. Available in black or walnut bakelite, with or without tie cord ring. Order these handy connection blocks from Leich.

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EVERYTHING FOR THE TELEPHONE INDUSTRY

Stanley Retires from Kellogg After 23 Years

Harvey H. Stanley, Chicago, Ill., chief installer for the Kellogg Switchboard & Supply Co., retired June 27 from active duty with the company. Mr. Stanley joined Kellogg in 1924 as an installer of switchboards and spent the following four years traveling in that capacity. In 1928 he was promoted to chief installer.

Members of the Kellogg engineering division presented him with a fly rod so that he can better pursue his fishing in the North Woods this summer.

Under the Kellogg company's retirement income plan, Mr. Stanley is provided with an income extended to all employes who retire at the age of 65 following employment by the company for at least 10 years.

Succeeding Mr. Stanley is R. M. Schofield, his assistant for the last five years. Kellogg's new chief installer of switchboards joined the company in 1939.

V V

Coastal Bell Pioneers Elect Officers

T. A. Morris, Hamlet, N. C., was elected president of the Coastal Council of Telephone Pioneers of America at its annual meeting at Carolina Beach, N. C., July 12 and 13. He succeeds O. G. Bain of Wilmington.

Other new officers are: Mrs. Helen King, Wilmington, vice president, and Mrs. Gladys Wright, Laurinburg, secretary-treasurer.

V V

Buy Missouri Company

Mr. and Mrs. Fred A. Cartwright, former owners of the Pineville (Mo.) Telephone Exchange, announced recently that they had purchased the Noel (Mo.) Telephone Co. from Cecil Lewis and Mrs. Russell Howerton. The new owners took possession of the business on July 1.

LEFT PHOTO: PERRY E. BENTON, Dayton superintendent of signals, checking the operation of the mobile radio-telephone equipment manufactured by Federal Telephone & Radio Corp., Clifton, N. J. RIGHT PHOTO: Mr. Benton testing central station transmitter.

Federal Mobile Radio Adopted by Dayton Police

One of the largest municipal police car-to-car communications systems in the Middle West, operating between 152-162 megacycles, has just been put into operation at Dayton, Ohio, with the installation of the emergency radio equipment manufactured by Federal Telephone & Radio Corp., Clifton, N. J.

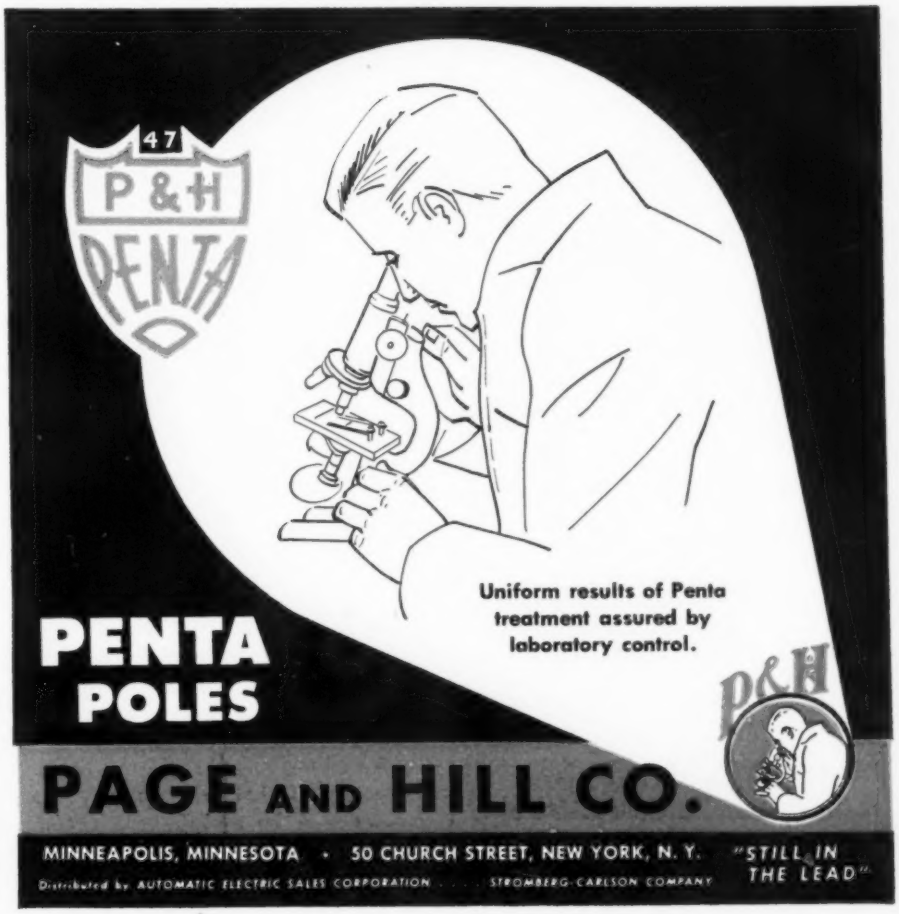
Using a beacon type transmitting antenna with a power gain of three mobile transmitters with a 25-watt output and highly sensitive receivers, the following results have been obtained during experimental runs conducted thus far: Clear two-way conversations were held between two cars 18 miles apart; good station-to-car signals were received 35 miles from the control transmitter which was as far as the test car went before turning back, and communications were maintained between points where heretofore it had been impossible to achieve this service.

It is the plan of the city of Dayton eventually to expand this initial system to one which will be county-wide and will embrace all branches of the government requiring radio-telephone service as well as tieing into the state police system. To this end the eventual lay-out will comprise at least four 250-watt transmitters with dual frequencies and a 300-ft. tower—all housed in a new communications building. Included in this plan is a scheme whereby four separate antennas can be operated simultaneously from this tower.

The outstanding feature of the small-sized, compact mobile unit is that it provides high power sensitivity and selectivity without sacrificing a major portion of the vehicle's luggage compartment to radio equipment. This is accomplished by the use of miniature tubes and components.

An interesting feature of the central station transmitter is that it is arranged with two exciters. One of these, on a frequency of 156.33 mc is used to drive the final power amplifier at its resonant point. This circuit is employed to transmit all messages for Dayton to its police cruisers. The other exciter, on a frequency of 155.73 mc can be substituted for the first one by operating a switch on the police control console which, in turn, causes the appropriate relays to function in the transmitter cabinet, connecting the second exciter to the final stage. Although the exciter is driving a power amplifier which is not tuned to its frequency the power lost is only between 75 and 100 watts. This channel will be used to communicate with the state police at Wilmington, Ohio, about 35 miles away.

The full length treatment protects Penta Poles from top to butt.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TESTS ANY VOLTAGE...
100 to 550 Volts, A.C. or D.C.
Safely, Swiftly, Surely

THE NEON GLOW
LOCATES TROUBLE -INSTANTLY

Indicates hot or grounded wires. Tells AC from DC. Far superior to ordinary clumsy test bulb. Indispensable in shop or home. The only pocket-size tester with PATENTED SAFETY FEATURE.

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RTC-2 VINCENT RARE GAS RELAY

for harmonic or coded bells. Dual purpose device which economically improves both ringing and transmission on party lines. NO MOVING PARTS. Fully guaranteed. Can be installed in a minute.

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PREMAX

Question:
What kind of paint should be used for pole marking?

Answer:
We would not recommend paint for this purpose. Embossed aluminum letters prove much more satisfactory. These aluminum numerals and letters are available in ½, ¾, 1, 1½, 2, 3, 4 and 6-in. sizes. They are attached to the poles with two nails. — "Plant Man's Quiz", April 6th, 1946.

Obviously Premax Metal Markers!

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A unique squelch circuit is employed in the mobile receiver. Basically, this circuit makes use of a type 2D21 thyratron which is fired by noise, or cut-off by an on-frequency carrier, to operate a relay which in turn controls the receiver audio amplifier so that no audio output is obtained in the absence of an on-frequency carrier.

A very interesting feature of this unique squelch circuit is its ability to maintain the receiver in a quiet condition even in the presence of adjacent channel signals.

V V

Hodges Joins Stromberg Patent Department

Frederic C. Young, Stromberg-Carlson vice president in charge of engineering, has announced that Albert R. Hodges, a senior member of the Institute of Radio Engineers, has been added to the company's patent department and will handle patent prosecution and related matters in the radio and electronics field.

Mr. Hodges was formerly a member of the patent department of the Sperry Gyroscope Co., Inc., of Great Neck, N. Y., and former patent engineer of the Airborne Instruments Laboratory (Columbia University Division of War Research) at Mineola, N. Y. He has served in electrical engineering capacities for General Electric, Farnsworth Television and Radio, and Ralph H. Langley, consulting engineer.

A native of Ridgewood, N. J., Mr. Hodges was educated at Hamilton College and Cornell University. He is a member of the admissions committee and the Technical Committee on Radio Receivers of the IRE. In 1939 he wrote a "Better Buymanship" booklet on radio receivers for the Household Finance Corp.

V V

Western Union Installs Push Button System

"Push-button telegraphy" previewing a new era in Western Union delivery, was placed in operation July 9 between Philadelphia and New York.

The Western Union Telegraph Co. said the $2,000,000 push-button system, coupled with construction of a new radio beam network, ultimately will replace telegraph pole lines.

The new system, tripling the capacity of present wire facilities, permits switching clerks to relay messages to any of 270 destinations by merely pushing a button.

Western Union officials said other circuits will be added by September. The complex maze of wires, button panels and lights next will be installed at Cincinnati. Then push-button sets will be constructed in Boston, Kansas City, Syracuse, St. Louis, Atlanta and Oakland, Calif.

Philadelphia is the clearing house for all messages to and from Pennsylvania, New Jersey, Delaware and the counties of Maryland and Virginia on the Del-Mar-Va peninsula. Messages arriving in Philadephia are sorted by routing clerks and carried by conveyor belts to relay operators who retransmit the message on teletype machines.

A radio beam system has been operated experimentally between Philadelphia and New York since February, 1945, the company said. Commercial use will start shortly over a system connecting Philadelphia, Pittsburgh, New York and Washington.

V V

New Plastic Finishes for Furniture, Floors, Autos

Reyam Plastic Products Co., 1525 E. 53rd Street, Chicago 15, Ill., announces the development of a new plastic finish by Dr. B. S. Friedman, in charge of research and development.

This new product is not a paint, not a varnish, but a water-thin transparent, clear liquid that with a cloth is wiped on furniture, painted walls and

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The proved and standard Protection for Underground Telephone Cables.
Cheapest in the long run. Highest quality and a full line of shapes.

National Fireproofing Corp.
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PITTSBURGH, PA.

floors, linoleum, automobiles, trucks, boats, etc., the company states.

No skill is required to apply the material as it flows out to a smooth brilliant finish. It touch dries in 10 minutes and is hard in six hours. It is a sealer which prevents corrosion and will not crack or craze. Used during the war for protecting certain types of shipments from sea air, it is now made available for civilian use, it is said.

V V

Six-Wheel Drive Trucks

The Four Wheel Drive Auto Co., Clintonville, Wis., has just issued an eight-page folder describing its line of six-wheel-drive trucks, used for heavy duty service. Copies of the folder may be secured by writing the company.

V V

Sells Tennessee Company

The Rutherford (Tenn.) Home Telephone Co. was sold recently to L. E. Crawley, Bruceton, Tenn., by John and Frances Alford.

"It's for you, Mr. Van Hoosick. Take it on number two."

FOR SALE

FOR SALE

Cable: Five reels 2,000 ft. each, 51-pair 19-gauge submarine cable, leaded, paper insulated, wire armored jute protected, 203 mills diameter of wire armor. Price FOB Winter Park, Fla., $0.76 per ft.

Desk Stands: 187 mixed Kellogg and W. E. mfg. Good condition. $2.00 each FOB Winter Park, Fla.

Bell Boxes—Large: 103 mixed Kellogg 602 and 605 and W. E. 534 with harmonic ringers. Black finish. Good condition. $4.00 each FOB Winter Park, Fla.

Fuses:

496—seven-amp. 7T BB W.E. fuses. New, unused. Make us an offer.

411—A12, one-amp. Cook. New, unused. Make us an offer.

372—seven-amp. 11C-BB W.E. New, unused. Make us an offer.

Protectors:

63—99A W. E. less fuses. Used, good. Make us an offer.

94—99A W. E. with fuses. Used, good. Make us an offer.

Send inquiries to

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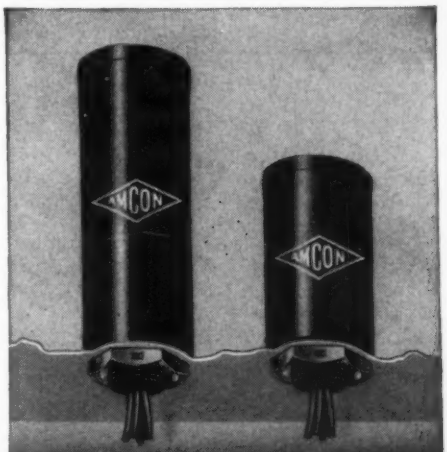
P. O. Box 56, Telephone 510

ATTENTION TELEPHONE ENGINEERS!

American Condenser introduces Bakelite Containers for top or side chassis mounting for Telephone applications.



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AH!--DONE TO PERFECTION RIGHT TO ZE CORE.
VOILA! LA PIECE DE RESISTANCE... GOLD SEAL TAPE!

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Jenkins Bros., also make Diamond Seal Friction and Rubber Tapes which meet ASTM and Federal Specifications.

● Like skilled chefs, tape experts in the Jenkins laboratory check every step in the manufacture of Gold Seal. That's why Gold Seal always has plenty of tack . . . never ravels, peels, smears your hands, or dries out. Ask for Gold Seal, by the box or the handy ten-roll can. Every roll is cellophane wrapped. Jenkins Bros. (Rubber Division) 80 White Street, New York 13, N. Y.

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CLASSIFIED SECTION

Rates 10 cents per word payable in advance. Minimum charge $2.00 for 20 words or less.

HELP WANTED

HELP WANTED: Equipment man qualified to maintain all types of equipment including carrier. Please state age, marital status and experience in first inquiry. Southern Continental Telephone Co., Cookeville, Tenn.

HELP WANTED: Traffic superintendent for two-state, 54-exchange operation. Excellent opportunity for qualified individual. Please state age, marital status and experience in first inquiry. Southern Continental Telephone Co., Cookeville, Tenn.

HELP WANTED: Young man, single or married, capable of servicing a two position CB board and three small automatic boards. Prefer man with electrical wiring and servicing experience. Steady work, with good chance for advancement. Write The Pickford Telephone Co., Pickford, Mich.

HELP WANTED: Local Manager for telephone company operating in Pennsylvania having in excess of 4,000 stations. Good opportunity for man qualified to advance to larger system groups. In application furnish age, education, experience, present employment, small photograph, recommendations, etc. Write Box No. 2462, c/o TELEPHONY.

HELP WANTED

HELP WANTED: Qualified individual to fill district manager's position. Please state age, marital status and experience in first inquiry. Excellent opportunity for right person. Southern Continental Telephone Co., Cookeville, Tenn.

HELP WANTED: Experienced telephone men wanted. Combination men, central office equipment men, cable splicers, linemen, age 22-32. Town 20,000 in Illinois. New two-bedroom houses available G.I. plan $48 monthly. Excellent schools and recreational facilities. Write Box 2467, c/o TELEPHONY.

HELP WANTED: Combination plant man to maintain both inside and outside plant of common battery exchange. Permanent employment and good wages. Write Oklahoma Telephone Co., Broken Arrow, Okla.

HELP WANTED: Expanding Independent company of 500 stations on West Coast needs experienced manager with knowledge of common battery or automatic operation. Some commercial experience necessary or could use couple if wife has traffic and commercial knowledge. Good salary if competent. Will also consider selling interest. Write Box 137, Forks, Wash.

Reconditioned

CONDENSERS

WESTERN ELECTRIC

KELLOGG

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Guaranteed to be free of leakage.

Write for prices.

BUCKEYE TELEPHONE and SUPPLY COMPANY

COLUMBUS 6, OHIO

HELP WANTED

HELP WANTED: Chief operator, experienced in telephone bookkeeping. Progressive town of 1,200 close to Kansas City—common battery service. Send reference and photo in first answer. Write Box 2473, c/o TELEPHONY.

HELP WANTED: Manager to take charge of four exchanges . . . two automatic and two magneto. A real position with adequate salary for the man with the know-how and the desire to work. Write Box 2458, c/o TELEPHONY.

POSITION WANTED

POSITION WANTED: Capable man, with 30 years' experience in all phases of telephone work, desires position as general superintendent or manager of Class A telephone company. In charge of Communication Department with value of $20,000,000 for past 15 years. Know cost and organizing of new companies. Available on 30 days' notice. Don't reply unless a real superintendent or manager is desired for at least $6,500 per year, with a three to five-year guarantee of work. Write Box 2460, c/o TELEPHONY.

POSITION WANTED: Situations wanted, by thoroughly experienced man on switchboard installations and repairs, with helper who has some experience. Desire permanent positions or otherwise, for central office switchboard and power installations and repairs. Address Box 2472, c/o TELEPHONY.

POSITION WANTED: As manager or plant manager, 24 years experience with Class A companies as manager and plant manager of properties up to 10,000 telephones. Experienced in dial conversion. Age 46, married. Write Box 2471, c/o TELEPHONY.

FOR SALE

FOR SALE

Kellogg one-position Magneto Switchboard equipped with

Lines with 101 E drops & Jacks	100
Mountings No. 329 (10 per strip)	10
Clearing out drops No. 51-E	40
Drop Mountings No. 427	4
Cord Circuits (with No. 42 plugs)	20
Repeating coils No. 16A	7

Board is in good condition. May be seen at Mansfield, Ohio.

The Mansfield Telephone Company

Reply to: Gustav Hirsch, Consulting Engineer, 310 W. Broad St. Columbus 8, Ohio